10-17-2019

# Building Community in Online Faculty Development

Jennifer McKanry
*University of Missouri-St. Louis*, mckanryj@umsl.edu

Building Community in Online Faculty Development

Jennifer B. McKanry

M.S. Administrative Leadership in Education, University of Wisconsin-
Milwaukee, 2005
B.S. Business Administration, Rider University, 1992

A Dissertation submitted to The Graduate School at the University of Missouri-St.
Louis
in partial fulfillment of the requirements for the degree
Doctor of Philosophy in Education with an emphasis in Educational Psychology

December 2019

Dissertation Committee

Theresa Coble, PhD
Chairperson

Carl Hoagland, EdD

Keeta Holmes, EdD

Keith Miller, PhD

**ABSTRACT**

The purpose of this mixed-methods study was to examine current best practices building community in online faculty development (FD). Ongoing participation in pedagogical FD is critical to teaching today due to changing technologies, pedagogical strategies, and increasing numbers of at-risk students. However, competing demands make prioritizing FD challenging. As a result, many institutions are implementing online asynchronous FD offerings. Little research exists on online offerings specifically for faculty with needs and motivations different from students. Particularly, it is important to look at social construction of knowledge through community in online asynchronous FD.

This study supplemented the scant literature by interviewing 27 online FD designers from 25 institutions in 14 of US states. This included 14 public and seven private doctoral-granting institutions and four commercial enterprises providing online FD as a service. Next, a four-week online FD course was built to explore the designer recommendations. Thirty-one faculty from 10 US states participated. Pre- and post-course surveys, course submissions, and post-course interviews were collected. Results indicated successful building of community.

Five themes were identified. 1) Participants need opportunities for deliberate practice that incorporate application, feedback, and reflection. 2) Participants seek to customize their experience to their unique backgrounds and needs. 3) Participants desire a learner-centered experience that elicits and values their contributions. 4) Community

creates validation through a sense of shared practice and overcoming challenge. 5) Through engagement, community fosters perseverance to overcome barriers.

Elements critical to incorporate in online faculty development programs include deliberate practice, customizability, and a humanizing learner-centered experience. Further, it is critical to provide faculty with opportunities for validation and generation of perseverance. In addition to community in the course, faculty reported interactions outside the course contributed to their learning. Further, faculty not able to complete the course still reported application results representing growth. Therefore, as a field we need to reconsider our metrics for success and find more holistic, humanizing ways to look at both design and measurement tools for success. Results from this study may contribute to future practices in online FD and its success in improving student outcomes.

## DEDICATION

I dedicate this work to my husband, who has so amazingly supportive to me in everything and without whose constant encouragement I could never have made it through this adventure. For every family activity and event I backed out on to work on this degree, I owe you.

I would be remiss in not also including in my dedication all the participants in this study who so generously shared their time, wisdom and experience with me. This was truly a partnership with all the designers and faculty participants whose experience make up the data here.

Lastly, I want to add a special dedication to my mother, who has inspired, encouraged, laughed, cried, and celebrated with me throughout all my early education. She made me the strong person I am today. Although she is no longer with us, I felt her presence, her love for education, and her belief in me every step of the way.

## ACKNOWLEDGMENTS

I want to offer special thanks to my advisor, Dr. Theresa Coble, whose sharing of her expertise and enthusiasm helped guide this adventure in so many ways. I want to thank all of the members of my committee for sharing their time, extensive knowledge, input and guidance to make this dissertation the best it could be.

I have to extend a very special thank you to Dr. Keeta Holmes, to whom I truly owe this success due to her support, encouragement, and advocation. I cannot begin to put in words how much she has done to support me both within this project and in my professional life. She is a gem everyone should be so fortunate to have touch their lives.

Finally, to all the friends and family who served as editors and proofreaders, I share this project's success with you. To those of you who over the years continued to inquire about my progress and encourage me, I thank you immensely for keeping me from veering off track. To those out there on this journey with me, I know you will all be here someday too! If I can do this, I know you can.

# TABLE OF CONTENTS

## LIST OF FIGURES

# LIST OF TABLES

**CHAPTER 1: INTRODUCTION**

Over the last twenty years, I have provided support to higher education faculty in numerous different capacities. In this time, I have met many faculty with a passion for teaching and guiding students. But also, I have seen their time available for students and staff support decrease, while course loads increase. Additionally, technology changes have put constant pressure on them to change their teaching style and become more a technology master than a teaching master.

In my master's and Ph.D. degrees, I learned a great deal about how learning works in adults and desired to share that with these struggling faculty. A project I developed for one of my Ph.D. courses was an online four-week faculty development course which I conducted over the summer of 2016.  In talking with the participants in this course I came to understand the power of building community in online courses. Faculty discussed a sense of isolation they often felt in their career, not having opportunities to discuss their teaching or career paths. Through this experience, I came to understand the power of community, built through faculty development, as a vital system of support to address this isolation.

The term faculty development is used to describe enrichment activities that focus on the many roles of faculty in higher education. These roles may include teaching, research, creative work, scholarship, and/or service within the educational system and the community (Amundsen & Wilson, 2012). There is a long history of development related to faculty disciplinary expertise and research in colleges and universities (Gillespie &

Robertson, 2010). However, only in the last several years has there been a renewed

emphasis on developing a teaching skill set. With this emphasis, institution-sponsored

faculty development efforts have become centralized through the expansion of teaching

centers and other support resources (Chism, Gosling, & Sorcinelli, 2010).

Offering faculty development to help educate faculty in the art of teaching is a

rapidly growing field (Austin & Sorcinelli, 2013). Pedagogically-focused faculty

development can take many forms. This might include stand-alone workshops or

seminars, individual consultations, ongoing workshop series, or academic course work.

With the recognition of the importance of peer learning and the need for longer-term

cohorts, another format emerged, Faculty Learning Communities (FLC) (Cox, 2004).

These learning communities are typically multi-disciplinary groups of faculty who meet

over an extended period, usually a year or more, with a curriculum focused on enhancing

teaching and learning and the goal of completing a scholarly project. While FLCs are

typically organized by a teaching center or other centralized agency, the participants

select and organize the curriculum and scholarly project.

**Statement of the Problem**

Despite the important role faculty development can play in a faculty career, many

choose not to engage with these resources (Gillespie & Robertson, 2010). At the same

time, the growth of technology use in and outside the classroom as well as changing

expectations of students, has increased the need for faculty to educate themselves on new

tools and strategies in teaching (Austin & Sorcinelli, 2013). Further, faculty need a

broader set of skills to teach the increasingly diverse student body. In addition to greater

racial and ethnic diversity, student bodies include a growing number of first-generation students, students over 25 years of age, students returning after an absence or a career change, and students with children (Afeli, Houchins, Jackson & Montoya, 2018; Bill and Melinda Gates Foundation, 2016; Redford, 2017). Many of these students are not prepared for or lack support to take on the academic demands of college (McKee & Tew, 2013). Faculty play a crucial role in the success and retention of at-risk students. Their relationships with students have a strong influence on student motivation, engagement, and persistence (Kezar & Maxey, 2014).

Widespread adoption of empirically validated methods to educate faculty in evidence-based teaching practices is needed to assure faculty have the necessary skill set to tackle these challenges (American Association for the Advancement of Science, 2011; Gehrke, & Kezar, 2017; President's Council of Advisors on Science and Technology, 2012). Institutions must find ways to make faculty development accessible to all faculty and ensure their understanding and ability to use these practices (Wynants & Dennis, 2018). Further, when faculty have their basic needs of competence, relatedness, and autonomy supported, they will be more motivated to implement these effective teaching practices (Bouwma-Gearhart, 2012; Stupnisky, BrckaLorenz, Yuhas, & Guay, 2018).

However, numerous barriers inhibit full-time faculty participation in faculty development, including tensions between faculty professional identity and the perceived threat of changing teaching strategies, as well as the lack of knowledge, time, and incentives (Brownell & Tanner, 2012; Kezar & Maxey, 2014). Increasing cuts in education budgets have resulted in smaller numbers of faculty and support staff (Palmer & Schueths, 2013). However, faculty continue to be expected to do more, creating new

3

workload pressures. Further, the existing tenure system puts more emphasis on obtaining grants, conducting research, and publishing than on teaching skill and student outcomes (Hannan, 2005; Healey, 2005, Porter, Roessner, Oliver, & Johnson, 2006).

Part-time faculty, often referred to as adjunct faculty, now make up almost half of the faculty population on many campuses (Magna Report, 2015). They bring their own unique barriers to participation, including a lack of availability during daytime hours when faculty development is often offered, and less familiarity and experience with teaching pedagogies (Dailey-Hebert, Norris, Mandernach, & Donnelli-Sallee, 2014). Further, two out of three part-time faculty have two or more jobs (American Federation of Teachers, 2010). Teaching centers struggle to combat these barriers, making the face-to-face synchronous model harder to sustain (Austin & Sorcinelli, 2013). The traditional model of faculty development face-to-face workshops and consultations is struggling to reach many faculty in today's higher education environment (Diaz et al., 2009).

To address these challenges, the landscape of how institutions are offering faculty development is rapidly changing. With the growth of technology and cloud-based computing, inside and outside of education, many institutions are looking at how online teaching strategies can be applied (Austin & Sorcinelli, 2013; Cook & Steinert, 2013). According to a 2015 Accreditation Council for Graduate Medical Education workshop, 57% of participants have tried online faculty development, and 98% believe utilization will increase in the future (Accreditation Council for Graduate Medical Education, 2015). While faculty often express a preference for face-to-face delivery, they acknowledge they lean toward online offerings due to convenience. Dailey-Hebert, Norris, Mandernach, and Donnelli-Sallee (2014) found faculty express a desire to be able to access opportunities

on demand and for resources to be available even after a program concludes. Online teaching has been found to be as effective as face-to-face teaching (Anderson, 2008; Russell, Kleiman, Carey, & Douglas, 2009). Further, online programs are flexible and adaptive to faculty schedules, giving faculty direct experiences in the student role and with a variety of technologies (Ching & Hursh, 2014).

**Social Interaction in Faculty Development**

To explore the quality and effectiveness of online faculty development, we must first look at the nature of learning itself.  Shulman (1987) identified four kinds of knowledge a teacher should have: content knowledge, curricular knowledge, pedagogical content knowledge, and general pedagogical knowledge. According to Shulman, expert teachers should be masters at: 1) general pedagogical knowledge, that is knowledge about general concepts of teaching and learning that apply across disciplines, and 2) pedagogical content knowledge, or the ability to apply pedagogical concepts in their content area.

Ericsson and Smith (1991) proposed these general pedagogical and pedagogical content knowledges are obtained over time through deliberate practice. This specifically involves practicing a skill with intention and regular feedback. For faculty, this is the practice of applying Shulman's four types of knowledge through social interaction inside the classroom and engagement with colleagues, subject experts, and pedagogical experts.

The field of educational psychology has recognized the importance of social interaction in learning for some time, beginning with the work of Dewey (1938) in his development of the social-constructivist learning theory. Theorists who followed

expanded his work. For example, Vygotsky (1978) developed the concept of the more knowledgeable other, Bruner (1966) developed our understanding of reciprocity and scaffolding, and Bandura (1969) developed the social cognitive theory. These social interactions are often discussed in terms of a community that is built within a course or environment (Garrison, Anderson & Archer, 2000; Wenger, 1998). In a face-to-face environment, interactions and discussions can evolve organically, allowing for this social interaction to happen more naturally. However, in a fully online environment, planning and structure are necessary to help encourage engagement, reflection, and feedback, which are key to learning.

**Gaps in the Literature**

Although there has been much research regarding best practices for online course design and delivery for students, there is little research looking at online faculty development at the university level. Cook and Steinert (2013) performed a meta-analysis on research related to online faculty development and concluded "the evidence base for online faculty development is sparse and insubstantial" (p. 932). A search of recent literature, detailed in Chapter 2, shows this has not changed since that meta-analysis. Specifically, best practices regarding how to facilitate communication and social construction of knowledge in online faculty development have not yet been determined.

**Purpose of the Study**

Understanding how faculty socially construct knowledge online through community and utilize community to overcome barriers to learning is critical to the

6

success of our institutions of higher education and ultimately our students. Teaching

centers, others tasked with faculty growth and development, and the faculty participating

in the development opportunities, will benefit from understanding how evidence-based

methods for online course offerings transfer to online faculty development. This will help

with the planning and delivery of appropriate resources and interventions, as well as the

ultimate transition of those teaching strategies to the classroom. Discussion forums are

the key online method for establishing social interaction. Therefore, in this study, I focus

specifically on the use of online discussion forums to build community among

participants and the facilitator utilizing the Community of Inquiry and Community of

Practice frameworks. The purpose of this mixed-method study is to explore ways online

discussion forums can be used to build community in online faculty development

programs to assure a collaborative, transformative learning process.

**Research Questions**

In this study I explore the following research questions:

RQ1.   In what ways do design and delivery strategies in online asynchronous

faculty development programs enhance the building of community

through meaning, identity, belonging, and practice?

RQ2.   Under what circumstances are online asynchronous discussion forums

effective in building community as measured by the existing frameworks

of Community of Practice and Community of Inquiry?

RQ3.   How do faculty motivations and barriers affect the formation of

community in online asynchronous faculty development programs?

**Significance of the Study**

I do not propose that online faculty development is better or worse than face-to-face or blended methods of delivery. Rather I recognize that the fully online platform is a growing delivery method (Global Markets Insights, Inc., 2018). Therefore, I explored strategies identified as best practices in the field through this mixed-methods study. Findings from this research may be useful to: 1) those building online faculty development programs, 2) participants engaged in online faculty development programs, 3) educational accrediting bodies looking at the quality of faculty development, and 4) students. Each of these stakeholders will be addressed in more detail below.

**Those building faculty development programs.** This study will inform those tasked with building and delivering online programs about practices in online discussion design to achieve social construction of knowledge through community engagement. Further, it will inform developers about faculty motivations and barriers affecting participation. Developers can utilize this information to build programs tailored more directly to faculty needs, so they will derive greater benefits. This will hopefully lead to higher levels of faculty application of teaching pedagogy. This would be particularly informative for future faculty development activities within the university setting.

**Participants engaged in online faculty development programs.** The results should allow participants to make informed decisions about participation in online faculty development programs. This includes determining the quality of the program's design including opportunities for interaction and building of community.

**Educational accrediting bodies.** More broadly, the results of this study could inform the field of faculty development in general and those bodies responsible for the evaluation of faculty development programs provided at universities. This could include organizations such as accrediting bodies, funding agencies, and professional organizations of faculty developers.

**Students of faculty participants.** As noted earlier, faculty play a crucial role in the success of at-risk students and can have a strong influence on student motivation, engagement, and persistence (Kezar & Maxey, 2014). Further, as I will discuss in more detail in Chapter 2, faculty who utilize more advanced teaching skills have better student outcomes (Kyriakides, Creemers, & Antoniou, 2009). Advanced teaching skills would include the application of evidence-based scholarship in pedagogy and appropriate strategies to support diverse student population needs. Faculty who attend ongoing development programs are more likely to use these advanced teaching skills (Dede, Jass Ketelhut, Whitehouse, Breit, & McCloskey, 2009).

## Assumptions

The assumptions made in this study include that faculty want to improve their teaching knowledge, they understand the need to provide faculty development online, and they will find value in and be willing to engage with their peers. I also assume that improvement in faculty teaching knowledge and skills will result in improved student learning outcomes and higher retention rates. Finally, I expect that the design and delivery facilitation modeled for faculty online will be replicated in how faculty structure their own online, blended, and face-to-face courses.

**Chapter 1 Summary**

Participation in ongoing pedagogical faculty development is critical to successful faculty teaching. In recent years new pedagogical strategies and rapidly changing technology in the field have amplified the need for faculty to participate in ongoing development. Student populations also continue to shift, including greater numbers of at-risk students who require additional faculty support to be successful. At the same time, changes in the academic environment make it more challenging for faculty to prioritize participation in pedagogically-focused face-to-face development programs. These changes include increasing demands on faculty schedules, competing demands to focus on research and obtain grants, and increasing part-time faculty appointments. As a result, the faculty development model is seeing a growth in online asynchronous offerings.

While researchers have focused heavily on determining best practices for online course offerings, few have researched application of these findings in online offerings for faculty who bring their own unique needs and motivations. Particularly, it is important to look at how developers and facilitators build community through the construction of communications and social interactions in these online programs, as this is key to learning. This study explores online faculty programs for the development of community and social interaction utilizing the existing frameworks of Community of Practice and Community of Inquiry. In Chapter 2 I discuss the details of these frameworks. This will help inform future online faculty development design and delivery practices.

## CHAPTER 2 – LITERATURE REVIEW

Faculty development is a broad topic that includes educational opportunities for faculty in many facets of their careers, including research, tenure/promotion, discipline content knowledge, and pedagogical knowledge. In this study, I am focusing specifically on general pedagogical knowledge or knowledge regarding how to teach (Shulman, 1987). Faculty often receive education in their disciplinary areas, but minimal to no guidance in pedagogy (Brancaccio-Taras, Gull, & Ratti, 2016). As a result, many faculty are inadequately prepared to meet the needs of growingly diverse student bodies in higher education (Austin & Barnes, 2005; Eble 1988; Menges, 1994). Faculty development related to general pedagogical knowledge is critical to facilitate a quality educational experience for students. According to Kyriakides and colleagues (2009), teaching skills move gradually from basic to more advanced skills applying strategies from the scholarship of teaching and learning (SoTL). Their findings show teachers have better student outcomes when they apply more advanced teaching strategies. Advanced teaching skills would include the application of evidence-based scholarship in pedagogy and appropriate strategies to support diverse student population needs. Further, educators are more likely to be innovative and effective when provided access to ongoing development programs (Dede et al., 2009).

In this chapter, I review the literature relevant to this research project. First, I look generally at faculty development and the move to provide programs via Internet-based mechanisms. Second, I review the research on the social construction of knowledge and

community in course delivery online. Finally, I focus on the conceptual frameworks that I will use to explore this research in online faculty development.

## Faculty Development

Providing faculty development can be more complex than just teaching pedagogical design. Faculty bring their own unique motivations and needs. Therefore, it is important to understand some of these background elements before reviewing best practices in design. This affects how development opportunities are designed and delivered. First, I discuss faculty motivation. Then I review barriers to program completion.

### Motivation

Unlike students who are motivated by factors such as grades and advancement toward a degree, faculty motivation to participate in development is much more internal and aimed at addressing short term needs, as well as long term career goals. In this section, I review some of the factors identified in the literature as motivations for faculty to engage in development activities.

Motivation is part of the triad that makes up the human mind. This consists of: 1) cognition, the internal thought processes of the mind or what one knows, 2) affect, or what one feels, and 3) conation, what one desires (Bier, 2014). Motivation exists in the last of these elements, conation. However, these three elements interact with each other and, therefore, must all be taken into consideration when addressing motivation.

Motivation research identifies two types of motivation, intrinsic and extrinsic (Deci & Ryan, 1985). Intrinsically motivated behavior is that which the participant finds inherently rewarding. Alternatively, extrinsically motivated behavior is performed in anticipation of an external reward or outcome separate from the act itself. For example, a faculty might engage in a development activity for the joy of learning (intrinsic) or to improve student evaluations (extrinsic), or both. There is often the assumption that intrinsic motivation is the only form that results in lasting learning, and therefore little can be done to inspire faculty to engage at a deep level in development activities. However, Bouwma-Gearhart (2012) found, in their study, development activities had "been powerful enough to transform what was originally an extrinsic motivating force to participate… into a functionally intrinsic one" (p. 566). Further, there are often multiple motivation forces which might be a mix of both intrinsic and extrinsic, as in the example above. So, while most motivation theories differentiate between intrinsic and extrinsic sources of motivation, there is also a great deal of interaction and overlap.

Humans are naturally growth-oriented and therefore will seek opportunities to expand their knowledge (Deci & Ryan, 2000). This growth-seeking can be grouped into three categories, gaining better understanding or skill (competence), increasing social integration (relatedness), and improving one's unified sense of self or identity (autonomy) (Bouwma-Gearhart, 2012). Table 1, while certainly not an exhaustive list, includes several examples in each of these categories found in the literature. These are also detailed below.

**Competence.** The first and most obvious reason faculty want to participate in development activities is to gain specific knowledge to address a problem or concern they

have. This may be a desire to expand existing knowledge about teaching or maintain

skills previously gained. In her study, Bouwma-Gearhart (2012) noted that nine of her 12

faculty participants indicated they were motivated to participate in the program due to

their perceived teaching deficiencies. While engaged in the program, they felt their

anticipation of improved teaching competence was a strong drive for continued

participation. Faculty may also want to meet a

Table 1

*Faculty Motivations to Engage in Faculty Development*

| Category | Research Study |
|---|---|
| Competence | |
| Meet a specific immediate need for information | (Andrews & Lemons, 2015) |
| Maintain skills previously gained in faculty development | (Bouwma-Gearhart, 2012) |
| Remedy dissatisfaction with currently used teaching strategies | (Gess-Newsome, Southerland, Johnston, & Woodbury, 2003) |
| | |
| Relatedness (social integration) | |
| Seek greater, deeper interpersonal connections | (Bouwma-Gearhart, 2012) |
| Gain opportunities to interact with colleagues | (Andrews & Lemons, 2015) |
| Improve student experience | (Bier, 2014) |
| Gain support or encouragement from department/leadership | (Bouwma-Gearhart, 2012; Bess 1997) |
| | |
| Autonomy (sense of self) | |
| Remedy low self-confidence with respect to teaching | (Bouwma-Gearhart, 2012; Bandura 1997) |
| Gain personal satisfaction | (Andrews & Lemons, 2015) |
| Gain accolades or other rewards | (Bouwma-Gearhart, 2012) |
| Address a desire for greater autonomy (e.g., more control regarding what happens in the learning environment) | (Bouwma-Gearhart, 2012) |

specific immediate need for information (Andrews & Lemons, 2015). Finally, they may be looking to remedy dissatisfaction with currently used teaching strategies (Gess-Newsome, Southerland, Johnston, & Woodbury, 2003).

**Relatedness.** The importance of the social component of teaching cannot be overemphasized. Many faculty feel they are teaching in a vacuum, with limited opportunities to discuss teaching with their colleagues. Some faculty pursue development opportunities to build greater, deeper interpersonal connections with peers around teaching and learning topics (Bouwma-Gearhart, 2012). Others seek to gain an opportunity to interact with colleagues (Andrews & Lemons, 2015). Finally, some seek to improve the experience of their students, including improving that relationship (Bier, 2014). In her study, Bouwma-Gearhart's faculty participants expressed the importance of a safe learning environment "where they can share some of their deepest concerns without feeling criticized or vulnerable" (p. 563). This exemplifies the importance of a supportive environment for faculty to seek out these relationship-building opportunities.

Support and encouragement of those around faculty can also be influential. Bess (1997) identified three levels or realms of support that can influence faculty behavior, 1) the self, 2) the local organization, and 3) the wider system of education. Additional influences also include colleagues outside the home institution and in one's personal life. Some realms, and environments within those realms, are more supportive of endeavors of personal enrichment. Departmental differences also make clear the importance of local situational factors (Shadle, Marker, & Earl, 2017). Therefore, we must look at motivations within the university and departmental environment and assure course design is also appropriate to the faculty culture.

**Autonomy.** Finally, is the idea of autonomy, the internal locus of causality for a faculty (Deci & Ryan, 2000). In other words, autonomy is the level of independence and individualism a faculty has in their role. This forms faculty sense of self or identity as a teacher. Participation must also be in accordance with the faculty sense of self and be designed in such a way to meet faculty needs. However, as Shadle and colleagues (2017) point out, faculty need to have a sense of control over the learning experience and outcomes. They need to feel they are building the vision for themselves and not having solutions dictated to them. Thus, it is important, wherever possible, to include faculty in course design decisions, help guide them to an understanding, or give them choice in how the material could be implemented. Accolades or other rewards can also help motivate faculty (Bouwma-Gearhart, 2012).

Motivation to engage in faculty development is also directly tied to motivation to teach. The more faculty can feel an autonomous ability to control the teaching environment and their practice, the more they will be motivated to teach, pursue opportunities to improve their teaching, and establish relationships with colleagues and students. I will briefly explore three different theories of motivation to teach. According to the expectancy theory, teachers are motivated to teach when they feel that the effort expended will lead to a meaningful experience for students (Bier, 2014). Alternatively, the self-efficacy theory purports that a teacher will be motivated to teach when they have a perceived sense of mastery of their ability to teach (Bandura, 1997). Finally, the self-determination theory explores the link between faculty internal drives, their practice, and the environment they are teaching in (Csikszentmihalyi, 2014; Deci, Kasser, & Ryan, 1997; Kunter et al., 2008; Stupnisky et al., 2018).

16

**Barriers**

Even when faculty are highly motivated there are often barriers preventing them from participating in development opportunities. To look at barriers, we first need to define them by types. Crawford, Jackson, and Godbey (1991) created a hierarchical constraint theory in which they proposed three levels of constraints to participation: intrapersonal, interpersonal, and situational. Intrapersonal barriers are those individual psychological states, those within the person, and attributes that interact with preferences. Examples may include stress, depression, anxiety, or perceptions of appropriateness or availability of resources. Interpersonal barriers are those relationships between people. These barriers are either a product of intrapersonal barriers or those which arise as a result of the interaction (Crawford & Godbey, 1987). Finally, structural barriers are those constraints that represent intervening factors between preference and participation. Examples would include work schedule, availability of the opportunity, and participation limitations.

Crawford, and colleagues (1991) proposed constraints organized in a sequential fashion that individuals must negotiate through in order, most localized or internal to most distal. This popular model has been applied extensively, particularly in the field of leisure study. In a 2010 meta-analysis of over 20 years of research applying this model, Godbey, Crawford, and Shen confirmed the validity of this theory. However, the literature on faculty barriers to development participation focuses on structural barriers. I summarize these findings in the remainder of this section.

The first and most obvious structural barrier is time. Faculty are often asked to do more with diminishing resources (Brownell & Tanner, 2012; Shadle et al., 2017). Recent cuts in education budgets have resulted in smaller numbers of faculty and support staff at many institutions. Therefore, faculty continue to be expected to take on more responsibility themselves (Palmer & Schueths, 2013). For professional fields, such as the clinical education fields (e.g., physicians, nurses, occupational therapists), the added challenge of balancing professional practice with teaching makes it nearly impossible to allow time for pedagogically focused face-to-face meetings, which are often seen as non-essential (Anshu, Burdick, & Singh, 2010; Wearne, Greenhill, Berryman, Sweet, & Tietz, 2011). Societal changes in the United States also include expectations for a balance between work and personal lives. Faculty with family responsibilities strive for flexibility to allow them to balance both commitments (Austin & Sorcinelli, 2013). Therefore, it becomes a challenge to prioritize participation in either longer-term programs or even stand-alone workshops presented face-to-face.

Although changes are starting to be seen, traditionally the university promotion system at research institutions puts higher emphasis on obtaining grants, conducting research, and publishing than on teaching skill and student outcomes. These university structures are organized in such a way that they encourage faculty to prioritize research over teaching and service activities (Hannon, 2005; Healey, 2005; Porter et al., 2006). Grants also continue to become more limited in availability, thus grant-seeking activities also absorb a greater percentage of faculty time. Although faculty contributions through research are unquestionably valuable, faculty roles in student education are also highly

important if not equally valued in the promotion system (Bouwma-Gearhart, 2012). As a result, junior faculty often find it challenging to balance their needs in both areas.

Another important consideration in providing faculty development is addressing needs of part-time faculty, often referred to as adjunct faculty. Almost half of all current faculty in the United States are part-time faculty (Magna Report, 2015; National Center for Educational Studies, 2018). Some reports have estimated the number as high as 70% of the academic workforce (Mathews, 2014). Part-time faculty often have a greater need for faculty development, because they typically come to teaching straight from industry without background or experience in teaching (Dailey-Hebert et al., 2014). Further, they may lack institutional supports, such as inclusion in department meetings, benefits, or budgets for professional development. Their schedules also may eliminate them from being able to participate as part of the community as they are often not available to be on campus during daytime hours. Part-time faculty typically work full-time jobs off-campus or are juggling appointments at multiple institutions. Their availability is often limited during weekdays when programs are traditionally offered for the convenience of the full-time faculty. Sorcinelli, Austin, Eddy, and Beach (2006) found addressing the needs of part-time faculty was a critical new direction for faculty development. So, developing alternatives that allow their participation is equally critical.

In their research study, Shadle and colleagues (2017) found the most frequently noted barriers were those related to logistical and structural issues. As a result of all the above factors, there is a growing interest in providing faculty development in asynchronous online programs that extend over a period of time. Online learning also allows flexibility in the timing of participation, allowing learners to access material on

their own schedule, day or night (Cook, 2014). However, unlike online coursework, it is yet to be shown if and how online faculty development can successfully build community online. As the demand grows for online faculty development, I aim to provide information that will move us closer to that goal.

**Mid-Career Faculty**

It is also important to acknowledge that mid-career faculty have their own unique needs and concerns. These faculty have achieved tenure status and are beginning to reevaluate and reimagine career goals and interests. Mid-career faculty "form a bridge between faculty generations by mentoring new colleagues and assuming leadership duties as their senior colleagues move toward retirement" (Baldwin & Chang, 2006, p. 28). As a result, they are critical players in the world of academia. At this point, they are also likely searching for a better balance between their work and personal lives. However, the path forward is not always as clearly defined as it was in the pre-tenure years.

The post-tenure years can be unhappy ones for faculty. Although many studies have supported this, the one that most caught the attention of academia was conducted in 2012 and published in 2014 by Collaborative on Academic Careers in Higher Education (Monaghan, 2017).  This project involved a survey of 13,510 faculty members at 69 public and private four-year institutions. It showed that associate professors are less satisfied than full professors and even than assistant professors still seeking tenure (Mathews, 2014). This is often referred to as mid-career malaise. Many factors come together to contribute to this dissatisfaction. These include an increased teaching load, more mentorship and leadership expectations, more competition for grants, and fewer

supports as most programs are aimed at early-career faculty. Salary compression also affects this group most.  Finally, the decreasing number of associate professors due to an increase in part-time faculty means there are fewer faculty available to carry the workload (Magna Report, 2015; National Center for Educational Studies, 2018).

Faculty needs at this career stage are engagement, vitality, and productivity (Mathews, 2014). Baldwin and Chang (2006) propose that there are three stages of mid-career development: 1) career reflection and assessment, 2) career short-term and long-term planning, and 3) implementation and growth through access to opportunities (e.g., new courses, new projects, and new areas to research). However, many faculty development opportunities are aimed specifically at newer faculty. It is important to be designing opportunities that reach the needs of the critical mid-career faculty as well.

**Online Faculty Development**

Continued growth has been seen in online faculty development offerings across universities in the United States, as well as in other countries. It is anticipated online clinical medical education will soon comprise over half of the clinical medical education offered (Harris, Sklar, Amend, & Novalis-Marine, 2010). Other fields and institutions are seeing similar growth in online and blended (partially online and partially face-to-face) offerings (Austin & Sorcinelli, 2013; Sorcinelli et al., 2006; Tarr, 2010). This allows access to those not able to easily come to campus and for sharing programs across multiple campuses. Further, teaching faculty online using the same tools available to them as teaching resources allows them to become more familiar with online teaching strategies and techniques (Adnan, Kalelioglu, & Gulbahar, 2017). Economies of scale,

reusable elements, and lack of competition for meeting space also make online offerings desirable and cost-effective alternatives for teaching centers (Cook, 2014).

**Challenges.** Regardless of the benefits of online faculty development, there are certainly challenges as well. As with students in online courses, faculty must be disciplined in managing their time and making sure they keep up with the components in the course. In an online course, if participants fall behind their cohort, they lose the advantages of the social interaction components of the course which are critical to building knowledge.

Secondly, there are technological challenges. Faculty may be unfamiliar with the technology being used (Anshu et al., 2010; Wearne et al., 2011). Faculty need to be able to access and utilize the tools in a course. For the same reasons they are taking advantage of distance learning, it may also be hard for them to get technical support when they have challenges. Adnan and colleagues (2017), in their e-learning readiness study of faculty engaging in online faculty development, found 82% considered themselves computer literate, yet rated themselves as not self-assured regarding digital learning environments. Half of their participants stated they were unsure how to use learning management systems and other related virtual tools. Although internet usage and learning management systems have become commonly adopted in higher education, faculty rarely use discussion boards and other interactive components unless teaching blended or online courses. One key to success is to provide ample support for faculty in the use of tools, thus reducing anxiety and allowing faculty to focus on the material.

Faculty may also need to be convinced there is value in implementing new technologies and learning strategies. Faculty tie part of their identity to their teaching

(Glass, 2017). To provide programs asking them to change their teaching strategy, including implementing new teaching methods, such as teaching online or incorporating active learning or flipped classroom models to their teaching, challenges the meaning of teaching for faculty (Brownell & Tanner, 2012; Glass, 2017). Faculty also have varying levels of willingness to adopt new ideas or technology. Wilson and Stacey (2003) found:

> Individual adoption rates of innovation are usually distributed along a bell-shaped curve and can be grouped under five categories: innovators, representing 2.5% of the population; early adopters, representing 13.5% of the population; early majority, representing 34% of the population; late majority, representing 34% of the population, and laggards, representing 2.5% of the population (p. 543).

Therefore, some resistance is common. Both elements imply an emotional component associated with faculty development and its ability to be effective. Any implementation of online faculty development should be sure to include consideration and support for this emotional component as well.

Finally, there are negative impressions existing of online faculty development. Frequently, faculty equate online programs to self-paced compliance training they might have had to complete during their hiring process or for annual certification. They may also have had or know someone who has had a negative experience with poorly designed online programs. This will sour their attitudes and motivation for participating in an online program themselves. The rapid growth of Massive Open Online Courses (MOOCs), which have only minimal interaction due to their availability to large participant numbers, has contributed to this perception in the field. Faculty often feel there is a trade-off between the convenience of online learning and the quality of the program (Wearne et al., 2011).

**Design strategies.** Much research has shown that well-designed online courses can be as effective as face-to-face courses (Anderson, 2008). However, directly applying face-to-face strategies without adaptation to online learning does not work (Baran, Correia, & Thompson, 2013; Thomas & Thorpe, 2019). Further, design can vary greatly from program to program. New pedagogies specific to the online environment should be utilized. The largest online course quality project to date is the Quality Matters (QM) initiative, started in 2005, and financed by the Fund for the Improvement of Postsecondary Education (Quality Matters website, n.d.). The results of this initiative include a rubric utilized in the field for online course structure evaluation and education for course reviewers on the utilization of the rubric tool.

Much work conducted in course design is based on a set of principles developed by Chickering and Gamson (1987), referred to as the Seven Principles for Good Practice in Undergraduate Education. These principles were compiled based on a meta-analysis of the literature and validated by surveying faculty regarding their teaching practices (Mellow, Woolis, Klages-Bombich, & Restler, 2015). These were revised in 1996 by Chickering and Ehrmann, specifically for application with technology and distance education. This revised version is the base for most standards in online education today, including the QM rubric.

However, all this work has been based on traditional coursework. No similar rubric or analysis tool has been established for the unique concerns and needs of faculty development. What few studies have been done on faculty development typically look at blended programs that have both face-to-face and online components (Anshu et al., 2010; Chen, Chen, & Tsai, 2009; Vaughan & Garrison, 2005). This can change the dynamic

compared with a program where the only interaction participants have is in the online environment. Therefore, the need exists for research looking at the effectiveness of exclusively online programs.

But to start this exploration of online faculty development, we must look to those elements that have been successful in online coursework for students. The component often identified as most important to effective course offerings is the building of community within the course (Garrison et al., 2000). Community and learner interaction are the key components for knowledge construction (Chen et al., 2009; De Wever, Van Keer, Schellens, & Valcke, 2009). This can also help build collaboration amongst faculty (Cox, 2004). Therefore, the focus of this research project will be on identifying structural components that are most successful in establishing community in online faculty development programs.

**Online Discussion Forums**

Chi and Wylie (2014) looked at different types of active learning and found the highest level of learning involves interactive discourse. The more passive a study strategy the less learning occurs. The more interactive, the higher the level of learning. Most of the interaction between learners in online courses occurs through discussion forums (Dunlap, 2009). These are sometimes referred to as computer-supported collaborative learning (CSCL) (De Wever et al., 2009), networked learning (NL), asynchronous learning networks (ALN) (De Wever, Schellens, Valcke, & Van Keer, 2006), computer-mediated communication (CMC), or computer conferencing (CC) (Pena-Shaff & Nicholls, 2004). For simplification, I will refer to them as discussion forums. A

discussion forum is an asynchronous series of posts organized in threads. Most often, this is housed in a learning management system, although stand-alone discussion software options also exist. To expand beyond pure text interactions these tools typically also allow for the inclusion of images, weblinks, and file attachments. Some also include video and audio posting capabilities, although these are infrequently used.

**Text-based discussion.** Discussion forum interactions benefit the learning experience through the interaction of peers with each other and the course content. However, most discussion forums do not encourage the utilization of video or audio tools, therefore, relying on engagement to occur in a mostly text-based environment. Oral and visual communication, especially in a face-to-face setting, can provide numerous non-verbal cues and emotionally rich supports. It is "fast-paced, spontaneous, fleeting, and less structured than text-based communication" (Garrison et al., 2000, p. 90). Written communication, on the other hand, has its benefits, including time for reflection and careful, critical thinking (Chen et al., 2009; Pena-Shaff & Nicholls, 2004). Designers should take advantage of the strengths of written communication to overcome the loss of face-to-face advantages.

**Synchronous discussion.** Most online discussion forums are held in an asynchronous manner due to the challenges of planning meeting times among faculty and the benefits for reflective thought. However, this review would not be complete without considering synchronous discussion. Synchronous discussions are those that occur at a specific time with all members participating together. This could be a web conference using a tool such as Skype, or text-based within a discussion forum, chat tool, email, or social media site. Some synchronous events have even been housed in online virtual

environments such as World of Warcraft or Second Life. Synchronous discussions are most appropriate for activities requiring interactivity, spontaneity, and fast decision-making (Chen et al., 2009). Synchronous discussion can be particularly challenging in a traditional text-based discussion forum structured by threads. Alternate options such as web conferencing are more desirable.

When courses are fully online and face-to-face meetings are not an option, synchronous meetings can help participants feel more involved in the program (Adnan et al., 2017). Chen and colleagues (2009) found synchronous discussions also served as a way participants could share information, socialize, and support each other. However, they found little benefit of the online synchronous discussions over face-to-face discussions and concluded this might likely be due to a lack of self-regulated skills of the participants and moderator. Therefore, one important component of synchronous discussion management is careful discussion structure and intervention where necessary. This can often be easier to do in an asynchronous discussion than a synchronous one due to the longer duration and gaps between responses.

**Asynchronous discussion.** An asynchronous discussion is one that occurs over a period of time and contributions to the discussion are spaced out over that time. A common example of an asynchronous discussion would be one that occurs via email where messages are sent and received separately in time. In an online course, these discussions are most often conducted using the discussion tool in a learning management system. This tool typically organizes contributions, referred to as posts, into threads that allow responses to a specific topic or question to be grouped together.

Asynchronous discussion forums present several advantages. Such discussions are much easier to schedule because they do not require participants to all be available at one time (Brownell & Tanner, 2012; Dailey-Hebert et al., 2014). Further, learners are provided with more opportunities to interact with each other because of the extended time. They also have greater opportunities to reflect, process information, and search for extra resources before participating (Pena-Shaff & Nicholls, 2004). This can be particularly helpful for shy participants or those who prefer the opportunity to reflect before responding. Furthermore, all learners can participate instead of just a few dominating the conversation. As discussed above, interventions by a moderator are also much easier due to the slower discussion pace. Therefore, there can be more direction of the discussion to more critical thinking and construction of knowledge.

The level of critical thinking that occurs on these forums is greatly influenced by two factors, 1) the initial prompt provided that defines what learners should respond to and the structure that those responses should take, and 2) the amount and type of facilitator intervention during the discussion (Ertmer, Sadaf, & Ertmer, 2011). Below I will go into more detail about both factors.

**Discussion prompts.** Each discussion should have clear directions for participation and guiding questions or prompts to which the participants reply. This may include instructions about the structure and timing of both initial posts and responses to peers. Poor or unstructured participation in discussion forums is often a key reason why they are not successful in reaching their goal of critical thinking and problem-solving. As noted by one of Adnan and colleagues' (2017) participants about a poorly structured

forum, "it wasn't really good. Few people participated in discussion forums, and even less were replying to somebody else's messages" (p. 30).

Many publications suggest how to structure discussion prompts. Of these, the best known and most often cited are Brookfield and Preskill's books *The discussion book: 50 great ways to get people talking* (2015) and *Discussion as a way of teaching: Tools and techniques for democratic classrooms* (2005). However, these were written for use in face-to-face discussions and are being adopted by designers for online discussion. Little evidence has been collected showing how effective they are in the online environment. Some of the most common adaptive suggestions include establishing clear parameters for the timing of postings and establishing roles.

*Timing.* The timing of postings within a discussion can be important. Requiring an initial posting by one deadline and subsequent postings by a second deadline can help assure more interaction within the forum than if this expectation is not explicitly stated. Allowing for enough time for participants to visit the forum multiple times is also important.

*Assigning roles.* A second important component of discussion structure is that of participant roles. Hara, Bonk, and Angeli (2000) recommend using a starter-wrapper technique in which the facilitator assigns someone to begin the discussion and someone to summarize it. De Wever and colleagues (2009) expanded these roles to five: starter, summarizer, moderator, theoretician and source searcher. Students with roles were found to outperform students without roles. They also tested introducing these roles early versus later in the course. They found the earlier the roles were implemented, the better students performed.

**Facilitator interventions.** Most studies focus on participant postings. However, it can be helpful to also look at facilitator postings (Chen et al., 2009). Facilitation is usually done by the course instructor but could be others playing a leadership role in the course. This element would fall under teaching presence in the Community of Inquiry model discussed later in this chapter. The moderator has the responsibility to create a friendly and safe learning environment (social role) and enhance learning by asking probing questions and making clarifying points (intellectual role) (Anshu et al., 2010; Crawford, 2016). The timing and tone of these interjections can be critical drivers to the depths of critical thinking a conversation will reach.

Asking questions at the right moment that challenge or encourage deeper reflection can increase the number and depth of posts and the likelihood of participants to return to the forum and be engaged in the conversation (Thomas & Thorpe, 2019). However, providing opinions or hard answers can often shut down a discussion (Mazzolini & Maddison, 2003). Anshu and colleagues (2010) found successful moderators guide participants to relevant material, rather than directly providing material. Guldberg and Pilkington (2006) recommend the facilitator monitor the discussion but take a passive role unless they see a need to intervene. For example, a facilitator can adjust where there are misunderstandings or incorrect information is being provided. In the Anshu and colleagues (2010) study there was a lack of participation early on because "learners were awed by technical jargon" (p. 4). Adjustments made by the facilitator helped redirect the discussion to one more appropriate and relevant.

Finally, a helpful role of facilitator interactions, especially early on in a program, can be to assure participants the instructor is reading their posts. This is helpful in

motivating increased quantity and quality of participation as well as retention in the course (Anshu et al., 2010; Bagherian & Thorngate, 2000). However, there are conflicting studies regarding how active a role an instructor should take. Mazzolini & Maddison (2003) found that the more instructors post in the discussion, the less comfortable students are participating. Alternatively, Parks-Stamm, Zafonte, and Palenque (2016) found instructor participation had a positive effect on student participation in discussions. Further, Jaggers and Xu (2016) found students strongly valued the instructor input in the discussion, which they saw as a demonstration of caring and a source of dependable information.

Recent studies have looked to peer-led discussions as another alternative and found them highly successful. Students feel more at ease and less worried about being judged for their comments (Hew, 2015; Park et al., 2015). Szabo (2015) found the use of peer facilitation positively impacted the amount and quality of participation of students in a discussion. However, teacher-led discussions produced more discussion of the assigned topic and more critical thinking. Therefore, the consensus is that peer-led discussion is optimal to stimulate the exchange of opinions. But if the goal is to achieve a consensus or a specific learning outcome, instructor-led facilitation is likely better (Thomas & Thorpe, 2019). Again, it must be cautioned most of this research was conducted on students and may not apply similarly to faculty engaging in their own development.

**Promoting critical thinking.** A common goal of using an online discussion board is to reach higher levels of critical thinking where greater levels of learning occur. Critical thinking is most commonly defined using the revised version of Bloom's taxonomy (Anderson & Krathwohl, 2001). This framework has six levels of

31

measurement of activity, from lower to higher-order thinking skills. These include, from lowest to highest, remembering, understanding, applying, analyzing, evaluating, and creating. In planning a discussion forum, it is first important to think about the learning objectives for that discussion and determine what level of this taxonomy learners should be expected to reach if fully participating. Then prompts and directions should be written to encourage appropriate thought processes. And appropriate interventions should be made by the facilitator.

Hara and colleagues (2000) looked at students in undergraduate coursework and found 70% of discussion board postings reflected deep cognitive processing. However, in those studies that looked at different types of professional development online, it is often found most posts are more social in nature, rather than related to the subject matter (Chen et al., 2009; Anshu et al., 2010). These tend to be effective in nature showing a component of relationship-building present. So, while it would seem there is a need to allow for a social element in the discussion board, it is important to assure that the number of social posts does not become too removed from the goal of the course and therefore discourage participation. Faculty may see this as not serious enough to warrant their time in participating. Taking all these components into account will be important in determining the ideal model for the delivery of online faculty development programs.

## Summary of the Conceptual Framework

In this section I will provide background on the two conceptual frameworks I plan to use for this research study, community of practice (CoP) and community of inquiry

(CoI). To provide a complete summary, first I will provide a short background on the development of expertise in teaching. Then I will provide a history of the development of social constructivism. Both concepts, expertise and social constructivism, are foundational to the CoP and CoI frameworks.

**Development of Expertise in Teaching**

Shulman (1987) identified four kinds of knowledge that a teacher should possess, 1) content knowledge, that of the subject matter itself; 2) curricular knowledge, the understanding of how you apply students' prior knowledge to the curriculum you are teaching; 3) pedagogical content knowledge, the ability to teach in one content area, which does not necessarily transfer to another content area; and 4) general pedagogical knowledge, understanding of general concepts about teaching and learning that apply across disciplines. According to Shulman, to be considered experts, teachers need to have mastered general pedagogical knowledge and pedagogical content knowledge.

Expanding upon these ideas, Ericsson and Smith (1991) developed the idea of focusing efforts to gain expertise in your discipline area. They found expertise does not depend primarily on traits (e.g., cognitive, personality), but rather on the acquisition of skills and knowledge through experience and instruction. They further hypothesized the idea that expertise is, therefore, obtained over time through deliberate practice. This specifically involves practicing a skill with intention and regular feedback. From this stemmed the popular idea that 10,000 hours of deliberate practice is the key to obtaining expertise. Faculty will best master teaching by sharing their practice and getting feedback from others. That leads to the social element of learning.

**Historical Roots of Social Constructivism**

Social constructivism theorizes that learning occurs through active participation in a group and involves a collaborative process creating individual and shared meaning. Often there is a focus on the use of language in this process. This conceptual framework can find its roots in some of the earliest writings of philosophers. But most anthologies begin with the work of Dewey (1938). According to Dewey, learning occurs through experience, which is the key to the transmission of knowledge. For Dewey, learning is a collaborative reconstruction of one's experiences (Garrison et al., 2000, p. 92). Therefore, reality is not an objective truth waiting to be discovered. Rather, it is a constructed truth formed from the accumulation of our interactions with other people and the environment. Theorists such as Piaget (1954; 1977), Vygotsky (1978), Bruner (1966) and Bandura (1969; 1977; 1978) expended this work. Details about each of these researchers' work in relation to social constructivism follows.

**Cognitive and affective development (Piaget).** Piaget (1954; 1977) is well known for his contributions to the psychological literature on child development. However, his theory of cognitive and affective development is often referred to as one of the original branches of constructivism which is applicable into adulthood. Piaget argues that people produce knowledge and form meaning based on their experiences and interactions with the environment.

Piaget theorized that when we experience new things, we attempt to reconcile the new knowledge with existing schema through two distinct methods, assimilation and accommodation. Assimilation occurs when an individual incorporates new experiences

into their existing knowledge schemas without adjusting the schemas themselves. This is different than accommodation in which the existing schema is insufficient to handle the new information, so an individual must change the schema or create a new schema to allow for the new information to be incorporated into their knowledge base. While Piaget's work focused on children and their learning processes, many subsequent researchers found it more broadly applicable and expanded upon the ideas of the environmental influences on learning.

      **Sociocultural theory of development (Vygotsky).** The sociocultural theory of development grew from the work of psychologist Vygotsky (1978). Vygotsky's theories focused heavily on the importance of social interactions in how children learn and are shaped as people. Vygotsky believed that social interactions are responsible for developing higher-order thinking skills. There are three key components of Vygotsky's theory. The first component is the zone of proximal development (ZPD). The ZPD is the gap between what a learner can do independently and what they can accomplish with support, such as that from a teacher or tutor. Trying to get a learner to perform beyond their ZPD will only result in frustration. And asking them to perform too easy a task will not result in learning and possibly also result in disengagement. The second component is the incorporation of the more knowledgeable other (MKO), such as a teacher or facilitator. Asking the learner to perform a challenging task within their ZPD range, with support from a more knowledgeable other (MKO) is how you advance learning. And finally, there is the importance of language which helps advance the learning process. Vygotsky theorized that language and culture are major contributors to the formulation of our thoughts. The combination of these three elements through social interaction,

cooperation, and collaborative dialogue moves learners to a higher level of mental function.

**Spiral curriculum and scaffolding (Bruner).** Initially focusing his work on early language development, Bruner (1966) later came to see the importance of social constructivism theory and much of his later work advances this theoretical basis. He felt language serves as an intermediary between environmental stimuli and individual response. Thus language, Bruner felt, was a key contributor to our learning processes. As we develop expertise in a field, learning becomes more symbolic. Therefore, Bruner theorized, language is specifically important for its ability to deal with abstract concepts.

Through his focus on social interaction, Bruner (1966) developed two concepts that contributed to the framework of constructivism: spiral curriculum, and scaffolding. Both are often closely associated with Vygotsky's ZPD. Spiral curriculum involves learning being structured so complex ideas are first taught at a basic level, then revisited at increasingly more complex levels (Bruner, 1960).

The term scaffolding first appeared in education literature when Wood, Bruner, and Ross (1976) described tutors interacting with a preschooler to help solve a block reconstruction problem. Scaffolding is the helpful structured interaction between an MKO and a learner with the purpose of achieving a specific learning goal. While this is most often thought of as an interaction between a teacher or teaching assistant and learner, scaffolding can also occur between peers working together in a learning community. In this study, I will be emphasizing the importance of both peer and facilitator roles in helping learners construct knowledge.

One difference between Bruner and other theorists discussed to this point is Bruner focused on the social role in the construction of individual knowledge, instead of creating shared meaning. This allows all participants to come away with their own meaning based on how knowledge fits into their previous knowledge structures. This belief would also be held by Bandura and support his social cognitive theory of learning.

**Social cognitive theory (Bandura).** Bandura (1977) is best known for his research using the Bobo doll, which expanded our understanding of learning to include modeled behavior. However, he was also a great contributor to social constructivism through the development of his social cognitive theory, sometimes also called social learning theory. This theory provided a bridge between behaviorism and the cognitive approach to learning. It focuses on how internal factors, in addition to environmental ones, are involved in learning. This theory has several components. I will discuss here the two key components for this study, reciprocal determinism and modeling.

*Reciprocal determinism.* The concept of reciprocal determinism (Bandura, 1978) purports that thought and learning are not just internal as suggested by the early theorists, or environmental as theorized by behaviorists. Bandura defined reciprocal determinism as the balance between: 1) behavior, 2) internal factors, and 3) the external environment including social interactions. He described internal factors as both cognitive (our thoughts) and anything that can affect our perceptions and actions, including biological and genetic influences. This was revolutionary at the time when the concept of behaviorism, focusing solely on the external influences, was prevalent.

*Modeling.* Bandura (1969; 1977) was the first to realize behavioral responses did not have to be reinforced to be learned. How could behavioral learning theory explain all

learning? The answer, Bandura proposed, is we learn by observing others modeling a behavior. He referred to this as vicarious learning. He also differentiated between learning and performance, clarifying that both ability and motivation must be present for someone to perform a behavior. Bandura demonstrated this through his famous Bobo doll experiments in which an adult modeled aggressive behavior toward an inflated doll and was either rewarded or punished. Children learned to repeat or not the behavior depending on the observed reward or punishment, rather than receiving it themselves.

**Interactive nature of significant learning (Fink).** The evolution of social learning would not be complete without the inclusion of Fink's (2013) taxonomy of significant learning. Fink built upon the taxonomy work of Bloom (1956) and Anderson and Krathwohl (2001) to include the human component of learning. His taxonomy (Figure 1) includes six criteria which he theorizes must be included in a course for learning to occur.  These criteria are 1) learning how to learn, 2) foundational knowledge,
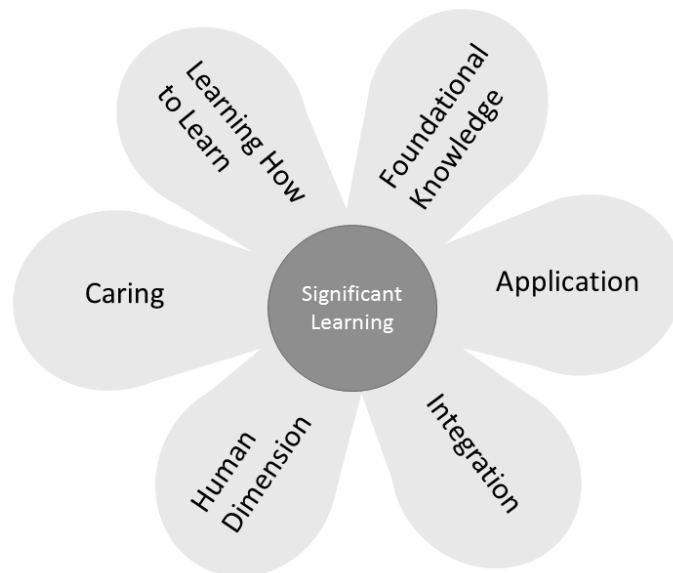


Figure 1. Interactive Nature of Significant Learning
Adapted from Fink (2013).

3) application, 4) integration, 5) human dimension, and 6) caring. He saw the center, where these criteria come together, as the point where significant learning occurs. The incorporation of these criteria could also be an expansion of Bandura's (1978) reciprocal determinism, as it further breaks out the three elements of environment, behavior, and cognition his model suggests.

**Current Definitions of Social Constructivism**

While often considered a learning theory, it is more accurate to define social constructivism as a description of the nature of learning. For one to know something, they must develop their own interpretation of the material and build upon it through observation of the reactions and responses of others (Anshu et al., 2010).

In social constructivism, it is believed that knowledge is a human creation, which is actively being built through our social interactions and personal or cultural lens and not something that can be discovered (Gredler, 2009). Knowledge is therefore neither all external nor internal to the individual but exists as the outcome of one's interactions with people in their environment. These interactions are often referred to as the negotiation of meaning. For social constructivists, the classroom, therefore, is a community whose task it is to develop knowledge through this negotiation.

These interactions generate problem-solving, which takes place through shared experience and discussion with others. New ideas are compared to existing knowledge. Critical thinking is not purely an internal process, "it is an iterative and reciprocal relationship between the personal and shared worlds" (Garrison et al., 2000, p. 98). The learner adapts their prior knowledge to come to a resolution where a dissonance had been

created. This places the focus on the learner as part of a community. Thus, an important component of structuring learning is to assure the structuring of a community of learners in the learning environment (e.g., classroom, online course, faculty development program).

Defining components of a community is, therefore, necessary to understand and evaluate this development process. The two best-known theories of community building in education are the CoP framework, and in applying that to online learning, the CoI framework. Both are described in detail in the following sections.

**Community of Practice (CoP)**

The CoP framework came out of the work of Lave and Wenger (1991) on participation as learning, particularly in the apprenticeship model. It was further extended by Wenger (1998) who applied it to other domains such as education. This purports the idea of social constructivist learning and challenged the norms of teaching in which teachers speak and students listen passively. Instead, this theory positioned learning as part of a wider practice in which social and historical components interact to produce the activity within a community (O'Donnell & Tobbell, 2007). In Wenger's theory, community is defined as the group formed through collective work experience. A CoP is present when learners have a common interest, collaborate over a period of time, share ideas and approaches, and design and build solutions.

There are four components to the CoP model: 1) community, 2) practice, 3) identity, and 4) meaning. These will be described in detail in the following sub-sections. In the center of these components is learning. Figure 2 illustrates these components.
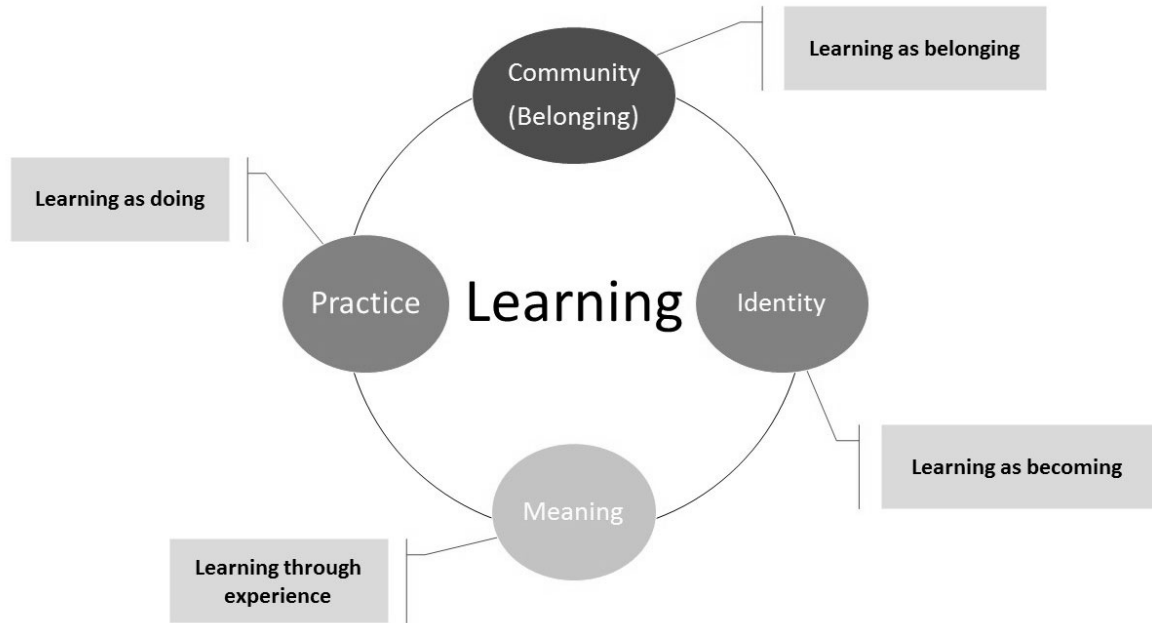
Figure 2. Community of Practice Model
Adapted from Wenger (1998).

**Community (Belonging).** The first component, community, requires that

members work together in shared activities learning from each other (Wenger, 1998).

This can be summarized as learning through a growing sense of belonging. In the CoP

model learning is constructed through social interaction of the participants. In online

faculty development, this would be the group of faculty that come together from different

disciplines, experience levels, and possibly different institutions, to collectively interact

through the online program.

There are many ways people participate in one or many communities. Wenger

(1998) argues everyone belongs to numerous communities of practice simultaneously and

much learning occurs through participation in these communities. Lave and Wenger

(1991) also explored the concept of the peripheral learner. This learner sees themselves as

on the periphery of the community. This perception affects their sense of identity as part

of the community and limits their learning and participation. On entry to the community,

learners are typically peripheral participants. Over time and with the experience, they

may become more central participants. Thus, rather than being an individual event,

learning is a process distributed across person, place, time, and activity.

Cuddapah and Clayton (2011), after analyzing a CoP of novice teachers, proposed

moving community to the center of the model. They found they could not identify

community distinctly because it was not found individually in the material but rather it

was "observed throughout and between the data" (p. 72). Therefore, it would be helpful

to use this model in conjunction with a model with established coding for evaluation of

community building such as the CoI model. To avoid confusion between the overall

concept of community and that specific subcomponent, throughout the remainder of this

paper I will refer to this element of the CoP framework as belonging.

**Practice.** The second component of practice refers to explicitly shared work in

which people with common interests can "sustain mutual engagement in action"

(Wenger, 1998, p.5). This can be summarized as learning through doing. Participants

have resources and problems in common making the sharing and collaborative work

together worthwhile. This proposed study will involve faculty working together with the

intention to practice the application of pedagogical theory in their teaching.

**Identity.** The third component exists when the community has an identity formed

by shared interests (Wenger, 1998). This can be summarized as learning by becoming.

This goes beyond a social interest such as a network of friends or a club. It implies a

commitment to the group. For faculty, this could be their identity as a teacher. This could

further be subdivided by faculty discipline (e.g., a chemistry instructor), by their method of instruction (e.g., an online instructor), by their appointment type (e.g., a part-time instructor, a community college instructor), and so forth.

**Meaning.** Through this experience together the community works to develop meaning, the fourth component represented in Figure 2. Meaning-making is the process of building learning through shared experience (Wenger, 1998). This can be summarized as learning through experience and is closely associated with the concept of identity. By participating in Communities of Practice, individual and group meanings are built, and people form new identities. In faculty development, one's professional identity is often defined as tied to rank and discipline, and skill in teaching and research. Gaining expertise in teaching and defining your teaching style is a large component of identity for faculty (Glass, 2017). However, Wenger's multilayered approach helps expand that view and is a valuable tool for investigating the complexity of a faculty development cohort by focusing on the importance of learning through social interaction. By this definition faculty participating in online faculty development programs over an extended period of time would qualify as a community of practice if they are working collectively to share resources and activities.

## Community of Inquiry (CoI)

Since its publication in 2000, the CoI framework has been used extensively for measurement and analysis of community in online education. As with the CoP model, it is built on the concepts of social constructivism, specifically applying them to the online

environment. Another strong influence on this model was the identification of the three types of interaction which I will describe in further detail below (Moore, 1989).

**Three types of online interaction.** In its infancy, the field of distance education, and research conducted within distance education, struggled from a lack of standardized language to describe relevant theoretical constructs, such as distance and interaction, being used across multiple media types. The Divisions of Independent Study and Educational Telecommunications of the National University Continuing Educational Association convened a panel to address this issue (Moore, 1989). One of the primary outcomes of this panel's work was to define a quality analysis model of three types of online learning interaction: learner-content interaction, learner-instructor interaction, and learner-learner interaction. Laid out in an editorial by Moore, this differentiation has become an industry-standard in defining and evaluating online learning.

Learner-content interaction is the learner's interaction with content resulting in changes to their understanding, perspective, or cognitive mental structures (Moore, 1989). This is, of course, the most commonly recognized type of interaction in online learning. Alternatively, the second type of interaction, learner-instructor interaction, involves any interaction between the learner and someone in the role of subject matter expert for the course, such as the course instructor, teaching assistant or another facilitator. In addition to the material they provide, instructors intervene with the goal of increasing student interest, motivation, and direction.

The third type of interaction, learner-learner, encompasses the interactions that occur between the participants in a course or program which might or might not be at the encouragement of the instructor or facilitator. Although the least thought of in course

planning, I will attempt to show in this research study, this interaction is equally as critical as the other two. Moore (1989) acknowledges this as well indicating it speaks directly to the nature of knowledge and the role of the scholar as a "maker of knowledge" (p. 5). This model becomes the precursor to the CoI framework.

**Community of inquiry terminology.** Inquiry is the seeking of an explanation of the observed phenomenon. It is cyclical and requires continual testing. Although the term inquiry is frequently used to describe the research process, it is beginning to be used regularly in reference to the process of learning. The term community of inquiry was first coined by Lipman (1991), who researched the importance of community in higher-order thinking. This research was expanded upon by Newman, Johnson, Cochrane, and Webb (1996), who looked at how these high-order thinking skills played out in online versus face-to-face discussions. They found online conversations encouraged students to bring in more outside information resulting in convergent or in-depth thinking, linking ideas to solutions more readily. Face-to-face discussion instead found students better at divergent thought in which they were generating new ideas or facilitating more creative and higher volumes of interactions.

**Community of inquiry framework.** More recently, Garrison, Anderson, and Archer (2000; 2001; Garrison & Arbaugh, 2007) applied these concepts to build a formal framework. Their goal was to grasp issues they were finding in their new online graduate program in which online discussion boards played a critical role (Swan & Ice, 2010). They were also interested in providing a tool to guide research in online learning (Arbaugh et al., 2008). By their definition, a community of inquiry (CoI) is made up of a "group of individuals who collaboratively engage in purposeful critical discourse and

reflection to construct personal meaning and confirm mutual understanding" (Community of Inquiry Network website, n.d.). This framework builds on constructivist ideas, theorizing that learning occurs through a process of creating an experience. It includes three interdependent elements, or presences: social presence, cognitive presence, and teaching presence. Table 2 shows the three presences and their subcomponents.

Figure 3 represents the interdependency of the three presences. While these elements are each defined independently, they are overlapping and function interdependently with the optimal online educational experience depending on the sustained existence of each. These presences align with Moore's (1989) three types of interaction of learner-learner interaction (social presence), learner-content interaction (cognitive presence), and learner-instructor interaction (teaching presence). At the center of these presences, where they intersect, is a successful educational experience. Garrison

Table 2

*Community of Inquiry Coding Template*

| Elements | Categories |
|---|---|
| Cognitive presence | Triggering event |
| | Exploration |
| | Integration |
| | Resolution |
| | |
| Social presence | Emotional expression |
| | Open communication |
| | Group cohesion |
| | |
| Teaching presence | Instructional management |
| | Building understanding |
| | Direct instruction |

Adapted from Garrison et al. (2000)
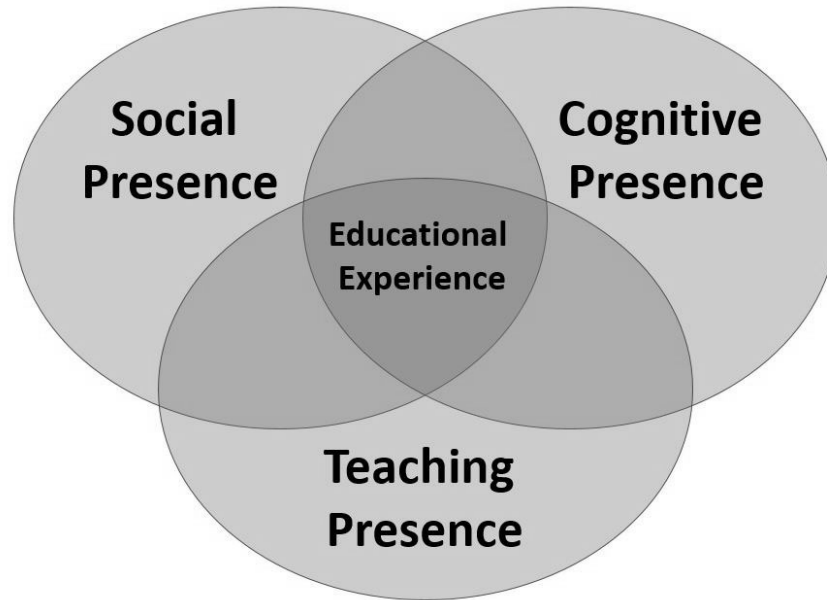
Figure 3. Community of Inquiry Model
Adapted from Garrison & Arbaugh (2007).

and colleagues (2000) argue that community can be created in an online environment, but only if all three of these presences are in place.

     **Cognitive presence.** The first presence of this model is cognitive presence. This learning process and outcome is considered the goal of education and is vital to critical thinking (Garrison et al., 2000). There are four levels identified within this presence that show a movement of thought through the learning process. These levels include: triggering event, exploration, integration, and resolution. Good course design and delivery should promote transitioning through these levels. They are also commonly used as codes when analyzing interactions in online discussion forums. Therefore, it makes this model ideal for application to evaluation of online discussion forums. Later in this chapter, I will provide examples of how cognitive presence has been used in this way.

***Triggering event.*** The critical thinking process begins with inquiry, which Garrison and colleagues' (2000) model refers to as a triggering event. Examples of a triggering event might include a discussion prompt question, a question raised in the course readings, or a comment from a peer. The triggering event is then followed by perception or awareness of the lack of understanding, deliberation, conception of ideas, and action through the practice of applying information. As in all constructivist theories, this is seen as reciprocal, involving both internal processes and social interactions.

Garrison and colleagues (2000; 2001) based their idea of the triggering event on Dewey's (1938) concept of practical inquiry. Dewey theorized inquiry goes through three phases: pre-reflection, reflection, and post-reflection. The pre-reflection and post-reflection elements represent external or social interactions, where the reflection component represents internal actions. This results in the resolution of the triggering event with understanding, a lower level on Bloom's taxonomy in the cognitive dimension (Anderson & Krathwohl, 2001).

***Exploration.*** The second phase of cognitive presence is that of exploration. In this phase, the learner is exploring available information to try to return to their state of equilibrium. Learners move between internal activity and interacting with others to gain a better understanding. In this phase, the learner starts with an understanding of the nature of the problem, then moves to a deeper exploration of relevant information (Garrison et al., 2001). Students are thinking in a divergent way, looking for many possible different solutions. Toward the end of this phase, they are more clearly differentiating between relevant and irrelevant information. This phase helps bring the learner to higher cognitive levels of Bloom's taxonomy, such as analyzing and evaluating (Anderson & Krathwohl,

2001). Learners can become fairly content in this phase and, therefore, may require a push to move from the exploration phase to the integration phase.

   *Integration.* In the third phase, the learner begins to construct meaning from the information collected in the exploration phase. Participants start thinking about ways the information can be applied and connected to prior knowledge. In this phase, facilitator intervention is critical to redirect misconceptions, probe for deeper thought, and provide additional information (Garrison et al., 2001). Through this activity, they model the critical thinking process to encourage deeper thought. However, as a researcher, the results of these interventions may be hard to perceive by looking at the artifacts available in the course. Therefore, coding this phase can be difficult.

   *Resolution.* The fourth and final phase of cognitive presence is resolution. This phase requires application of learning. Progression to this fourth phase requires expectations and opportunities built into the course to apply the new knowledge (Garrison et al., 2001). Therefore, often learners do not reach this phase within a discussion or group interaction or possibly within the course at all. As we understand from Bandura's (1969; 1977) work, learning does not always involve demonstration of new knowledge through behavior, such as that demonstrated in the creative level of Bloom's cognitive domain (Anderson & Krathwohl, 2001). So again, this phase can be difficult to identify as a researcher solely through observation and coding of activities in an online course.

   **Social presence.** The second presence of the model is that of social presence. This represents the individual's ability to present themselves in the online environment as a real person by projecting their personality into the community (Garrison et al., 2000).

This can also be described as the "degree of connectedness" felt by participants within an online course (Richardson, Besser, Koehler, Lim & Strait, 2016, p. 84). For learning goals in the cognitive domain, social presence provides support to the learning process by facilitating critical thinking.

Learners may be afraid to participate because of fears it might reflect poorly on them. As put by a participant in the Anshu and colleagues (2010) study, "people are scared to look silly and ask questions" (p. 4). Cutler (1995) found in his study that modeling of disclosures by one participant will often encourage others to do the same. This will help establish trust and support among the participants. Therefore, it is critical that an environment is developed that encourages participants to feel comfortable sharing. This would also include supports that improve motivation, engagement, and retention levels in the course.

However, communication, especially text-based communication, carries the likelihood of misunderstanding. To counter this, it is important to build multiple methods of social interaction in a course. This can be supported by implementing multimedia opportunities where possible including sharing pictures, audio, and video recordings. Some tools now available in learning management systems include these multimedia capabilities. But most important is that course design and facilitator interactions promote quality rather than superficial interactions. The tone of the message should be "questioning but engaging, expressive but responsive, skeptical but respectful, and challenging but supportive" (Garrison et al., 2000, p. 96).

Within social presence, there are three categories or indicators. These include emotional expressions, open communication, and group cohesion. Garrison and

colleagues (2000) formed these categories through the analysis of online discussion transcripts.

*Emotional expression.* As with the other elements, the text-based environment can make expression of emotion difficult. Garrison and colleagues (2000) assert that the expression of emotion is seen in the learner's ability to provide comments related to the educational experience. This ability helps support motivation and persistence, which is critical to the learning process. Again, this is strongly tied to the learner feeling safe and being able to be their real self in the learning environment.

Participant opinions reflect this understanding as well. Brookfield (2012) conducted a large survey of his students over time regarding their thoughts on when they felt they were most engaged in critical thinking. He found that their understanding supported the literature that critical thinking was a social learning process. They also supported the idea of a safe environment, as they preferred having multiple opportunities to practice in a safe environment before applying the learning in their own lives. Further, the more individuals share within the environment, the more others feel safe to do so as well (Garrison et al., 2000).

*Open communication.* This second category, open communication, is defined as "reciprocal and respectful exchanges" (Garrison et al., 2000, p. 100). This is represented by efforts at mutual awareness and respect. Examples of how this can express itself online include relevant and constructive comments, supportive and encouraging comments, and comments acknowledging others in the community.

*Group cohesion.* For group cohesion, learners must see themselves as part of the group rather than as individuals within the course. Garrison and colleagues (2000)

theorize that the quality of inquiry and discourse benefits when this group cohesion is in place. Online text-based discussions and even those incorporating multimedia components can easily have a very superficial nature to them. Construction in such a way that they bring cohesion to the community, therefore, becomes a critical element to a successful educational experience.

**Teaching presence.** The third presence encompasses both the design of the course itself and the facilitation of the course. This is sometimes also referred to as facilitator presence, instructor presence, or instructor immediacy (Thomas & Thorpe, 2019). The design component is inclusive of selecting the material, activities, and assessments as well as the determination of how they will be organized and delivered. The second component, facilitation, can include interactions with learners in discussion forums and constructive feedback. This would include assuring that support was provided to redirect misunderstandings, helping participants negotiate meaning, modeling critical discourse, and providing prompts and scaffolding where needed to encourage learners to challenge their thought process further. Teaching presence has been found to be a significant predictor of learning, satisfaction, and sense of community in a course (Gorsky & Blau, 2009).

To accomplish this design and facilitation, the concept of teaching presence has been expanded beyond the original Garrison et al, 2000 definition to include the facilitator presenting themselves as a real person in the course (Richardson et al., 2016). Examples of how a facilitator might do this include providing pictures and videos throughout the course, providing information about their background, experiences, teaching philosophy, and where appropriate sharing personal experiences or details. The

course facilitator or teaching assistant typically is the one creating the teaching presence. However, it can also include any member of the community. Either way, the purpose of teaching presence is to support the other two presences, social and cognitive, toward the ultimate goal of a successful educational experience. As with the other components of this model, teaching presence has sub-components: instructional management, building understanding, and direction instruction. These are described below.

*Instructional management.* The first indicator of teaching presence, instructional management, addresses those elements of the course that affect logistics, such as learning objectives, activities, and assessments (Garrison et al., 2000). They would also include choices in what technologies are used, course structure, and time frame. The instructional management effects decisions made both before the class starts and during the course delivery. Typically, the course facilitator makes these decisions. Although in some settings these decisions are made by an instructional designer or administration. In some circumstances, learners can also be included in this decision-making process.

*Building understanding.* The building understanding element relates to creating and maintaining the inquiry in the community. In some publications this is also referred to as facilitating discourse. To assure this, the facilitator should build a process that is challenging and stimulating (Garrison et al., 2000). Further, the course facilitator or other individual fulfilling this role must make sure that the other components in the cognitive and social presences are occurring and intervene where needed to facilitate those processes. Palloff and Pratt (2007) identify six essential elements of building understanding: honesty, responsiveness, relevance, respect, openness, and empowerment. Activities involved might include drawing in less active members of the community,

assisting consensus building in discussions, and reinforcing appropriate discussion contributions publicly and privately. As with face-to-face discussion, this takes time, effort and intentional action. There is no automated way to successfully facilitate discussions (Thomas & Thorpe, 2019).

*Direct instruction.* Lastly, the element of direct instruction is the most straightforward interaction between the facilitator and the content. This includes presenting content, questions, and providing additional direction through individual feedback (Garrison et al., 2000). Providing personal experiences and knowledge in addition to what is readily available through course materials can be a very effective way to achieve learner trust while supporting the elements of cognitive and social presences.

Researchers are divided on role of teaching presence within a course (Thomas & Thorpe, 2019). Some see it in a more mechanistic way focused on behaviors and strategies (Garrison et al., 2000). Others have a more complex approach including facilitator characteristics such as openness, authenticity, and engagement (Crawford, 2016; Richardson et al., 2016). Both perspectives are important to consider when assessing facilitator success.

It is particularly critical to stress the importance of the facilitator's within a course in an era where great pressure exists to make free-standing, self-paced modules without these community elements. While researchers have individually identified the importance of these roles, the Garrison and colleagues (2000) CoI framework puts them together identifying their importance as a cohesive interactive whole. They further have provided a mechanism for coding and analyzing online interactions that has become one of the hallmark tools in evaluating the successful design and implementation of online courses.

**Applying the Conceptual Framework**

In this chapter, I outlined two frameworks I used to answer my research questions. In this last section, I describe ways these have been used as measurement tools in research data. To do this, I will focus primarily on online discussion forums, which is where the majority of interactions occur within a program. In a face-to-face environment, interactions and discussions can evolve organically. However, in a fully online environment, planning and structure are necessary to help encourage engagement and lack of isolation. Application of frameworks such as these is helpful in defining effectiveness of discussion forums and other online interactions.

**Analyzing Discussions**

The transcripts of discussion forum interactions containing all the interactions between the learners are an easily accessible artifact of a course. This makes analysis for the effectiveness of this tool a common research method. Researchers utilize many types of measurement to determine the level of critical thinking and engagement learners reach during an asynchronous online discussion. This is most often done using content analysis where the actual transcripts of the discussion are analyzed (De Wever et al., 2006). However, measuring interactions quantitatively based on the volume of participation alone will not reach the qualitative measure of critical thinking and engagement I am looking to achieve. Potentially, not every post is meaningful or relevant to the learning process. In general, researchers have moved away from quantitative measures, such as

the number of posts, to more qualitative measures (Delahaye Paine, 2011; Ertmer et al., 2011; Meyer, 2004).

The key is to find a way to measure not only the number of interactions but truly determine the quality and depth of the interactions and resulting learning outcomes. Thus, a researcher must choose data analysis methods that are specific enough to be meaningful, but still broad enough to be practical (Garrison et al., 2000). Further, the instruments used should be replicable, precise, accurate, reliable, objective, and valid (Rourke, Anderson, Garrison, & Archer, 2001). Numerous content analysis frameworks can be found in the literature. Here I will focus on the three most commonly used, the two frameworks I have already described, CoP (Wenger, 1998), and CoI (Garrison et al, 2000; 2001; Garrison & Arbaugh, 2007; Arbaugh et al., 2008), and third I will briefly address here Bloom's taxonomy (Anderson & Krathwohl, 2001).  Finally, I will also discuss Delahaye Paine's (2011) engagement model, which helps identify levels of engagement. While typically applied in the field of business rather than education, it is also helpful here to look at engagement and depth of commitment.

In the CoP model, the four components make up coding categories for interaction within discussions (Wenger, 1998). These components include belonging, identity, practice, and meaning. In the CoI framework, the cognitive presence elements are used for coding including triggering event, exploration, integration, and resolution. The other presences also have categories that can be used for coding, as detailed in Table 2. But these are less often used as they are much harder to identify in the peer-to-peer interactions.

Another framework worthy of mention here is Bloom's taxonomy. This taxonomy was originally published by Bloom (1956) and later underwent major revisions by Anderson and Krathwohl (2001). The revised version of this framework's cognitive domain provides levels from lower to higher-order thinking skills. Listed from lowest to highest, these include: remembering, understanding, applying, analyzing, evaluating, and creating. This taxonomy also includes affective and psychomotor domains. Yet, those are rarely referenced or used for coding discussion forums. Analysis and coding of discussion transcripts for the existence of cognitive processing at each of the cognitive levels helps the researcher determine the complexity of the cognitive process occurring within the discussion (Ertmer et al., 2011; Meyer, 2004).

However, Bloom's taxonomy is less relevant for online faculty development contexts because it focuses on behavioral aspects of interaction, rather than social aspects. An additional advantage of the CoI and CoP frameworks over Bloom's model is they encompass the group collaboration process in addition to critical thinking by the individual learner. Meyer (2004) utilized seven different frameworks, including Bloom's and CoI frames. She concluded that although each frame had the possibility to provide insight on students' discussions, using multiple frames would have the most benefit.

Finally, the Delahaye Paine (2011) model examines engagement with respect to a participant's commitment to the discussion. According to Delahaye Paine, participation in online context that provide opportunities for user participation can be categorized into five levels: lurking, casual, active, committed, and loyalist. These are depicted in Figure 4 with descriptions adapted to be applied to course discussion boards.
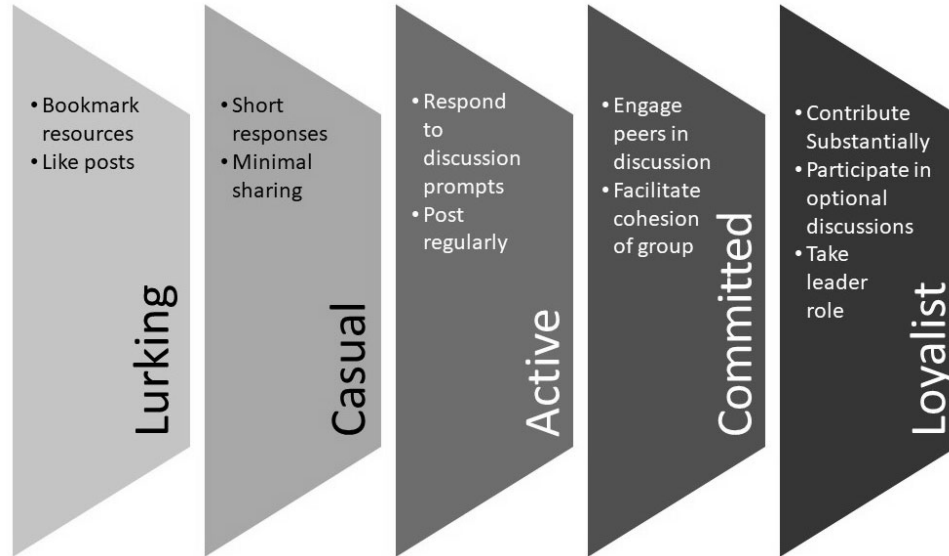
Figure 4. Phases of Engagement in Participatory Online Contexts
Adapted from Delahaye Paine (2011).

The relationship with the participant begins when they become aware of your

product, in this case, the discussions. However, that alone does not constitute

engagement. At the first level, lurking, the participant may look at the postings or may

like or bookmark something but does not directly engage. At this point "it's just barely a

relationship with no loyalty involved, but some sort of relationship has formed"

(Delahaye Paine, 2011, p. 81). At the second level, casual participant, true engagement

begins. For example, a participant may make a comment or two with minimal input and

effort. This may include indicating agreement or asking a simple question. Some

percentage of these partially engaged participants "will either get bored or become

passive observers and the relationship stagnates" (p. 81). However, movement into this

phase may also signal someone has moved closer to a commitment to the community.

At the third level, the active participant is posting regularly in the discussion and

fully responding to required components laid out for activity completion. The relationship

has become a communal one in which all parties are benefiting from each other. They are contributing to the knowledge from which others in the group are gaining. Contributions at this level can also have effects on other participants, encouraging them to move from the casual to active level.

At level four, the committed participant is beginning to establish a deeper relationship with the added components of trust and satisfaction. Satisfaction is "the extent to which each party feels favorably toward the other because positive expectations about the relationship are reinforced" (Delahaye Paine, 2011, p. 83). This level is marked by an increased rate of engagement over time. This could also show itself through participants taking on a leadership role in the discussions such as actively working to move the group toward a consensus or providing outside resources to support suggestions and ideas of others within the discussion.

The final level is that of loyalty. This could mean participation over the minimum required, participating in optional discussions, providing peer review feedback beyond the minimum required, or actively promoting the building of community. Using this model to analyze discussion boards can provide an additional helpful perspective on level of engagement and commitment participants have toward the community in the course.

In addition to looking at the transcripts, it is also important to explore elements around what is being said such as timing, sharing of artifacts, and other external factors to the discussion. In studies of elementary and secondary teachers' professional development, Chen and associates (2009) found the time periods of messages can matter in the level of cognitive activity in the discussion. Over the duration of the discussion, messages "can vary in terms of social cues, interaction, cognitive and metacognitive

dimensions" (p. 1157). To look further into these elements and their influence on the construction of meaning, additional course artifacts and interviews should also be reviewed in conjunction with discussion boards to obtain a broader more complete perspective of what faculty are gaining through their course participation.

## Conceptual Model

Based on this literature review, I developed a conceptual model (Figure 5) for building community in the online faculty development environment. This social learning process conceptual model ties together the elements coming into the online environment: faculty participants, facilitator(s), and content. These are reflected by the elements of the CoI model which make up the environment: social presence, cognitive presence, teaching presence. Within this safe, carefully structured online environment and with the help of the facilitator, participants interact with the content and their peers by engaging in reflection, application, and social interaction. This process helps them build connections, with their peers and the facilitator, with the content, and with their previously-existing knowledge. The results of these activities and connections are growth of meaning, both individual and collective, growth of identity as a teacher, practice, and a sense of belonging as they move from peripheral toward central in the community. These final outcomes reflect the elements of the CoP model. It should be noted that, while this study is specifically looking at an asynchronous application, it is my belief that this model would also apply in a synchronous or mixed online environment.
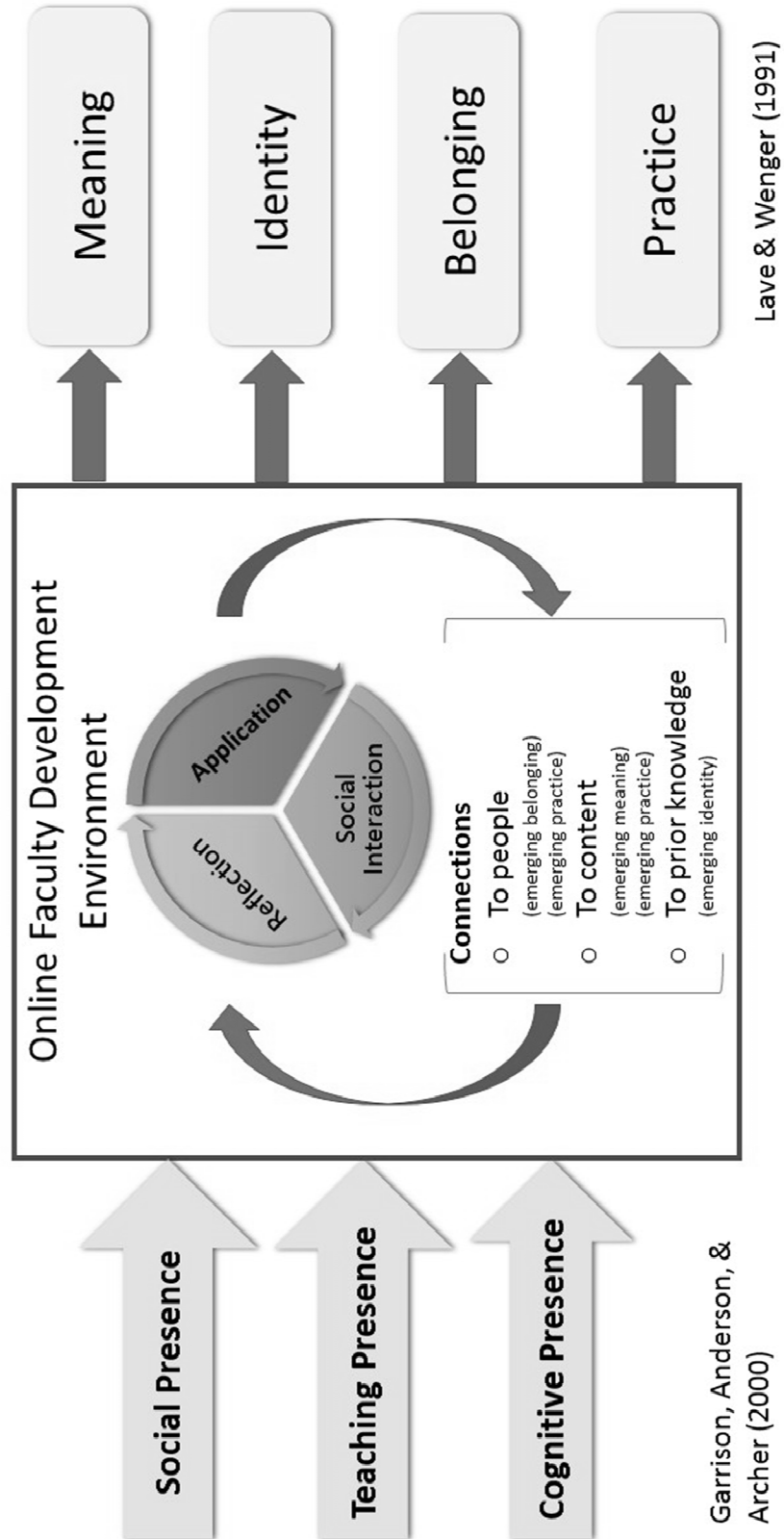
Figure 5. Social Learning Process Conceptual Model

**Chapter 2 Summary**

To deliver effective online faculty development, it is important to understand how faculty construct expertise in an online environment. This includes building community in the online faculty development environment so social construction of knowledge can occur. The elements of the CoP and CoI models work well together as tools to analyze the social construction of knowledge. In this project, using these models, I explore current online program design practices to determine how effective they are in helping faculty build the necessary components of community, so they reach the goal of a collaborative, transformative learning process through access to effective online faculty development. Further, it is hoped these findings will extend to better learning experiences for students. In Chapter 3 I outline the methodologies used in the research project.

## CHAPTER 3: METHODOLOGY

### Introduction

To address the research questions proposed here, I conducted a mixed methods research study. The choice of this methodology was driven by the guiding questions and purpose of the study. To accomplish this, I developed and offered an online faculty development course on applying cognitive psychology literature to teaching practice. This course ran for four weeks during the summer of 2019 and included 31 faculty participants from around the United States. The course structure employed currently identified best practices in online faculty development. These practices were determined from: 1) the literature review conducted and detailed in Chapter 2, 2) my experience working in the field, and 3) interviewing 27 practitioners currently developing and delivering online faculty programs. Quantitative and basic qualitative methods of analysis were used to explore the effectiveness of the different elements of the course design and delivery regarding their ability to establish community and socially constructed knowledge in online faculty development. I also looked at faculty motivations and barriers impacting effectiveness of these practices. Appropriate IRB approval was obtained prior to collection of any data. In this chapter I discuss this research process.

**Research Design**

This research project contained five data collection points: 1) interviews with developers of current online faculty programs (Appendix B), 2) a pre-course survey of participants (Appendix C), 3) the discussion activity within the course itself, 4) a post-course survey of participants (Appendix D), and 5) interviews with participants (Appendix E). These five data collection points are depicted in Figure 6. In this section, I will look at each of the study research questions and address how these data collection phases helped address them.

*RQ1: In what ways do design and delivery strategies in online asynchronous faculty development programs enhance the building of community through meaning, identity, belonging, and practice?*
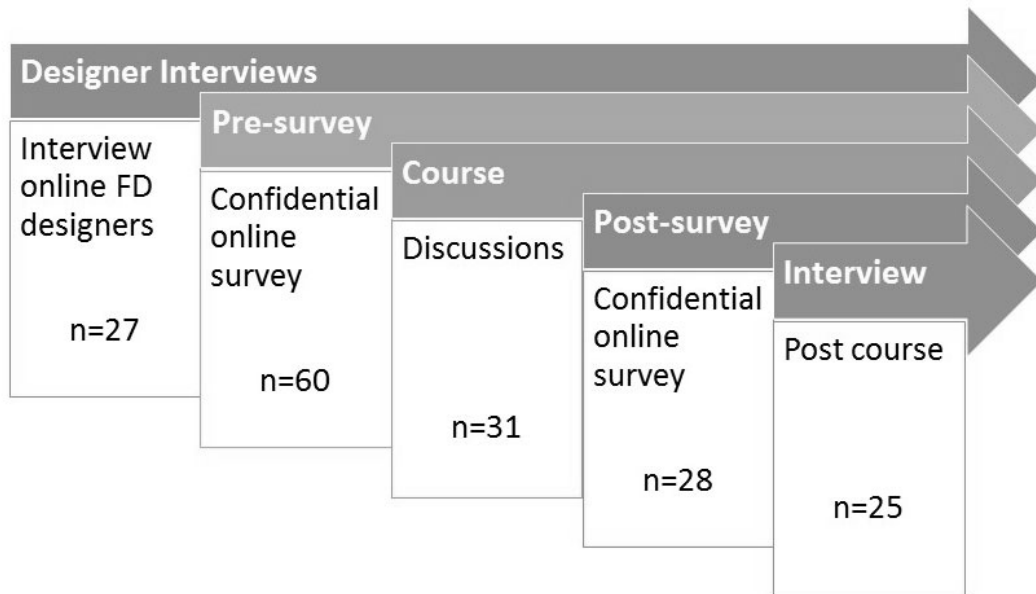
Figure 6. Five Phases of Data Collection

To address this question, I looked at all five data points. The designer interviews gave me a baseline perspective of what others found successful in design and delivery. The pre-course survey gave me a baseline of participant knowledge which I then compared to their post-course survey to determine how successfully they felt they mastered the material covered in the course. But most heavily I relied on the post-course interviews which gave me the background information to fill in the how and why. I also used the Delahaye Paine (2011) engagement and CoI coding strategies to explore the level of engagement within the discussion boards to determine the effectiveness of their design. While the surveys and course discussions helped answer this question as regards building meaning, it was the participant interviews that most helped determine how well the course built identity, belonging, and practice. Further, they helped determine which elements of the design and delivery were most effective.

*RQ2: Under what circumstances are online asynchronous discussion forums effective in building community as measured by the existing frameworks of Community of Practice and Community of Inquiry?*

To answer this question, I heavily focused on the discussions within the course and the post-course interviews in which participants shared perceptions of and opinions about the discussions. Discussion board submissions were coded for elements of community and compared with participant perceptions of community. Open coding and the Delahaye Paine (2011) and CoI frameworks were used to analyze the discussion boards. The post-course survey questions relating to the components of the CoP and CoI models were also explored.

*RQ3: How do faculty motivations and barriers affect the formation of community in online asynchronous faculty development programs?*

To explore the effects of motivations and barriers I reviewed the designer and participant interview data from the lens of the motivation and barrier literature discussed in Chapter 2. This provided a rich list of motivations and barriers which I compared against the previous literature to categorize.  Each of these results will be discussed individually in Chapter 4.

## Population and Sampling Procedures

There are two different participant groups in this study. The first group consists of designers of online faculty development programs. The second group are faculty who participated in the four-week course. Below I will detail the recruitment processes, criteria, and demographics of participants for both groups.

**Online Designers.** The participants in the initial phase of interviews were recruited from staff and faculty involved in developing and delivering fully online faculty development programs at institutions of higher education in the United States. Participants had to be at least 18 years of age so they could consent. This was not a limiting factor since advanced degrees are typically required for such positions and it would be unlikely someone could obtain such a degree and be under the age of 18.

Participants were identified through professional networks including local and national instructional designer listservs including the Professional and Organizational Development (POD) Network, the Quality Matters Instructional Designer Association,

and other professional development contacts of the researcher. Attempts were made to recruit from as diverse a group of educational institutions as possible including both public and private, and two-year and four-year schools around the United States.

I employed purposeful sampling in gathering participants for this study. Patton (2002) describes purposeful sampling as a way to focus on information-rich cases that provide insights and in-depth understanding. Qualitative research samples are small. Therefore, samples should be selected to give researchers the best breadth of expertise and understanding as well as the greatest diversity of opinions possible to answer research questions. Further recruitment was done using snowball recruiting. Snowball recruiting is the identification of additional subjects by asking participants already in the study for suggestions (Merriam & Tisdell, 2016).

One suggestion made by designers was to include organizations providing online faculty development as a service to universities. Designers provided specific recommendations of well-respected organizations in the field even reaching out to help establish contact. Four of these institutions were contacted and agreed to be interviewed. This resulted in a total of 27 individuals from 25 different institutions being interviewed. Fourteen institutions were public higher education institutions, seven were private higher education institutions, and four were commercial enterprises providing online faculty development as a service to universities. They spanned 14 states, mostly in the eastern and mid-western United States. These locations are represented in Figure 7. One interviewee was from the central office of a state system which included both two-year community colleges and four-year masters and doctoral-granting institutions. All other

Figure 7. Location Map of Designer and Faculty Participants
Generated by EasyMapMaker

higher educational institution interviewees were at institutions awarding degrees up to the

doctoral level.

All but two of the higher education institutions had a centralized teaching center.

The newest of these teaching centers was one formed in the last three years. One

institution was in the process of consolidating multiple teaching centers. One institution

housed its teaching center at the state system level although some campuses within the

system also had their own centers that addressed local needs. One center had recently

been absorbed into the instructional technology area. Six of the higher education

institutions differentiate their instructional designers' work by discipline. The other 15 have their instructional designers work with all disciplines. All institutions included part-time faculty in their online faculty development. Many noted that one reason for moving online was to give greater access to part-time faculty.

**Course Participants.** The second group of participants were those recruited to participate in the four-week course itself. Criteria for participation included being a full-time or part-time faculty at an institution of higher education. Participants were required to have regular and reliable internet and computer access and sufficient technical support to be able to utilize the basic tools in the course. Participants were also required to be 18 years of age or older to assure they could consent. This was not a limiting factor as it would be highly unlikely a higher education faculty would be under 18 years of age. Participants in a previous 2016 pilot of the course were also excluded from participation due to possible biasing effects from that experience.

Recruitment was conducted through existing networks including promoting the program through participants from the previous pilot project, developers and program coordinators at local institutions, and general postings on social media and listservs of national organizations. Designers contacted for the initial interview phase were also invited to promote the program at their institutions, serving in a gatekeeper role. While I initially cast a broad net for participants, purposeful sampling was also used to recruit participants with the maximum variation possible. It was desirable to have participants as diverse as possible in the variables of race, gender, age, teaching experience, part-time versus full-time faculty appointments, institutional affiliations (public/private, four-year/two-year), and region of the United States. The effort was supported by a second

recruitment targeting schools and populations underrepresented in early registrants. International participants were welcomed although not intentionally recruited. One international participant did complete the pre-course survey but opted not to enroll and participate in the course. They were non-responsive to emails so the reason for not participating is unknown. All materials were provided only in English, so participants also needed to be literate in spoken and written English.

My goal was to recruit a minimum of 30 faculty participants for the course with an expected drop rate of 50% over the duration of the four weeks. Again, this is based on experience with the pilot of this course conducted in 2016. A total of 60 faculty completed the pre-course survey. Of those, 31 participants from 15 different institutions enrolled in and began participating in the course. Twenty participants completed all elements earning a certificate of completion. This resulted in a 35% drop rate, substantially improved from the pilot.

Fifteen participants had prior experience teaching online and 17 had experience taking online courses or professional development prior to this course. Five did not have any experience with online learning. Of those, two specifically stated they were very skeptical about online learning and participated hesitantly based on the recommendation of a trusted colleague. Twenty participants were from doctoral-granting institutions. Nine were from community colleges and two were from technical colleges. Participant demographic details, grouped by discipline, are provided in Table 3. Additionally Figure 7 provides a map of participant locations within the United States which spanned 10 different states.

Table 3

*Course Participant Demographics (n=31)*

| Discipline | Total Number | Years of Experience | Appointment Type | Race | Gender |
|---|---|---|---|---|---|
| Applied sciences (Engineering, health, etc.) | 11 | 2-20 | Full-time (6) Part-time (5) | White (10) Black or African American (1) | Female (10) Male (1) |
| Business | 4 | 5-24 | Full-time (1) Part-time (3) | White (4) | Female (4) |
| Formal sciences (Computer science, mathematics, etc.) | 3 | 8-25 | Full-time (2) Part-time (1) | White (2) Black or African American (1) | Female (2) Male (1) |
| Humanities (Arts, philosophy, etc.) | 3 | 4-38 | Full-time (2) Part-time (1) | White (2) Hispanic or Latino (1) | Female (1) Male (2) |
| Natural sciences (Biology, chemistry, etc.) | 3 | 5-15 | Full-time (2) Part-time (1) | White (3) | Female (3) |
| Social sciences (Anthropology, political science, psychology, etc.) | 7 | 6-36 | Full-time (3) Part-time (3) | White (6) | Female (5) Male (1) |

## The Faculty Development Course

The course was offered entirely online over a four-week period. A free version of the learning management system Canvas by Instructure was used to house and deliver the course. The material covered in the course was related to the application of cognitive psychology research to teaching practice in higher education. It was titled *The Science of How Learning Works* and was based on concepts presented in the books *Make it stick: The science of successful learning* (Brown, Roediger, & McDaniel, 2014) and *How humans learn: The science and stories behind effective college teaching* (Eyler, 2018).

However, participants in the course were not required to purchase any materials. All materials were provided as free Open Educational Resources (OER) accessed through web links in Canvas.

The course was a revised version of a course offered in 2016 as a feasibility pilot for this research project. Materials were updated. Additionally, adaptations were made to the interaction points in the course based on findings from the developer interviews and literature review. The course contained numerous points of learner-to-learner and learner-to-instructor interaction (Moore, 1989). The learner-to-learner interactions included an introduction discussion board in which participants posted introductory videos, a watercooler discussion board open for the duration of the course for sharing resources and posting questions, weekly case-based small group discussions in which participants worked together to come to a consensus on their response to a case, a weekly wrap up synchronous web conference that could be participated in live or by watching the video afterward, and a discussion board peer review of the final project. The learner-to-instructor interactions included regular Canvas announcements and emails, interactions on the introductory discussion, interactions on the watercooler discussion, weekly introductory videos, and video and written feedback on weekly activities.

**Interviews**

Interviews can be highly structured, semi-structured or unstructured. Semi-structured interviews are best suited where flexibility is desired and no specific order is required, but where there are a specific focus and goal for the interview. It also assumes

"individual respondents define the world in unique ways" (Merriam & Tisdell, 2016, p. 110). This interview type gives the richest data possible as participants are able to control the flow and order of the interview and interject their experiences wherever possible. Further, researchers can respond to the information unfolding and adjust as needed. This flexibility is best to elicit the most useful and complete information. Therefore, for all interviews in this study, I used the semi-structured format.

**Designer Interviews**

The first step of this project was to identify and interview faculty and staff responsible for developing and running online faculty development programs containing the three types of interaction defined by Moore (1989): learner-learner interactions, learner-instructor interactions, and learner-content interactions. The protocol for these semi-structured interviews is provided in Appendix B. Sampling processes are outlined in the population and sampling section of this chapter.

Given the limited literature on online faculty development design and implementation, this helped add to my understanding of issues and successful practices through discovering the real-world experiences of developers. This information was used to inform decisions about the types of interactions built into the study four-week course.

My goal was to interview as many designers as needed to reach a point of saturation of information. I expected this to be around 10 based on experience from previous similar projects. Ultimately, I interviewed 27 individuals from 25 different institutions. Consent forms were collected via email prior to the interviews. Interview lengths ranged from 20 minutes to 82 minutes, with the mean length being 51 minutes.

One interview was conducted in person at the designer's choice of location. The remaining interviews were conducted via a video web conference tool called Zoom. Interviews were video or audio-recorded and transcribed for analysis.

**Participant Post-Course Interviews**

The second set of interviews consisted of individual semi-structured interviews with the course participants (Appendix E). These were conducted after completion of the four-week course. The goal was to identify experiences of community and social construction of knowledge through the course and motivations and barriers to completion. All 31 participants were invited for interviews regardless of completion status in the course. Twenty-five agreed and were interviewed. This included 18 of the 20 participants who completed the course and an additional seven who did not complete. One interview was conducted in person at a location of the participant's preference. The remainder were conducted via a video web conference tool called Zoom. All interviews were video or audio-recorded and transcribed for analysis. Interview lengths ranged from 17 minutes to 82 minutes, with the mean length being 36 minutes.

<div align="center">

**Surveys**

</div>

In addition to interviews, two surveys of the course participants were conducted. The pre-course survey (Appendix C) and post-course survey (Appendix D) data were collected confidentially from course participants using an online survey tool called Qualtrics. The pre-course survey also included the consent form. Participants confirmed

their consent before being able to complete the survey. Upon completion of the pre-course survey, participants were routed to directions to enroll in the course. Therefore, participants had to give consent and complete the pre-survey before being able to access the course. This assured all data collected within the course itself was from consenting participants. A total of 60 faculty completed the pre-course survey and consent. Thirty-one of those individuals actually enrolled in the course and participated.

I distributed the post-course survey (Appendix D) to participants in the last week of the course. This included measurement instruments looking at mastery of learning objectives, elements of CoP, and the validated survey tool for measuring CoI developed by Arbaugh and colleagues (2008). I included participants who did not complete all components of the program in this request as it was anticipated they could provide rich data regarding motivations and barriers to completion. I was also interested in comparing their post results to those who did complete all elements of the course. The survey was distributed to all 31 participating faculty defined as those who: 1) completed the pre-course survey, 2) enrolled in the course, and 3) submitted at least one assignment. Of those receiving the post-course survey, 28 completed the survey. This included all 20 participants who completed the course and eight additional participants who did not.

## Data Analysis

### Quantitative Analysis

As a mixed-methods study, there were multiple phases of data analysis. Quantitative analysis was used to review the pre-course and post-course survey data for

elements of mastery of learning objectives, and evidence of community as measured by the CoP and CoI frameworks. This data analysis consisted of descriptive statistics, including mean, standard deviation, median, and mode. Analysis using inferential statistics was not completed due to the small sample size. First, participants' ratings of their mastery of the learning objectives were looked at comparing those who completed the course to those who did not complete the course. Second, participant ratings were reviewed regarding participants' agreement on how well the course helped advance their sense of community in the CoP components of identity, belonging, and meaning.  Third, the pre-course and post-course survey responses were compared on the CoP component of practice to determine how participation in the course community affected their confidence level in practicing key topics taught in the course. Last, responses to the CoI measurement tool were reviewed to determine how well the elements of this model, teaching presence, social presence, and cognitive presence were present in the course.

**Qualitative Coding Process**

The majority of this project focused on qualitative analysis of the designer and participant interviews as well as the participant interactions on course discussion boards. The qualitative coding had multiple phases. First, the interviews were analyzed using an open coding process. In the second coding step, the interview data were analyzed using a deductive coding process specifically looking for identification of motivations and barriers. For this process, the framework outlined in the motivation and barrier sections of Chapter 2 was applied. Finally, discussion boards from the course were analyzed using a deductive coding process in which the existing coding frameworks from the Delahaye

Paine (2011) and CoI engagement model were applied. Each of these processes is detailed below and the results are reported in Chapter 4.

**Open coding of interviews.** Open coding, as the name implies, opens up the data to break through standard ways of thinking and allows the generation of questions to guide the researcher (Corbin & Strauss, 1990). Open coding is an inductive process done early in the analysis through microanalysis of the data. Each meaning unit is carefully analyzed line-by-line to allow the researcher to see new possibilities or see the data in new ways others have not before (Strauss & Corbin, 1998).

In the initial open coding process, I coded the designer and participant interview transcripts. I used the software Nvivo12 to track and organize these codes. I then engaged in a process of constant comparison. A hallmark of one type of qualitative research, grounded theory, is the constant comparative method of data analysis (Strauss & Corbin, 1998). This begins during the initial collection of data and involves comparing each meaning unit of data with another to determine similarities and differences. The similar meaning units are then grouped together and given a name that may or may not become the category name later. The goal of this process is to identify patterns and relationships which come together to build the grounded theory (Merriam & Tisdell, 2016). Since this process begins while data is still being collected, it allows the data analysis to affect the data collection process and inform the researcher what additional areas need further data. This constant comparative method has become quite popular and is now used in many other types of qualitative research as well. It was applied here in this basic qualitative study. This was started early in the data collection process, during both the pre-course designer interviews and continued throughout the post-course interviews.

I reduced open codes to categories using axial coding to find the relationships between all data sets. Axial coding is "the process of relating categories to their subcategories" (Corbin & Strauss, 2008, p. 123). Concepts related to each other are grouped together to form categories. To achieve this, I examined codes multiple times to identify similarities and grouped them together. As a result, several codes were merged (e.g., the initial code "learning through" was merged with "perspective-taking"). Multiple examinations of initial codes prompted me to repeat this process until codes were reduced and clear categories were evident.

The designer and participant interviews were each coded and categorized separately. Then the results of those categories were consolidated into five overarching themes which will be discussed in detail in Chapter 4. The designer interviews were coded first. Twenty-seven designers of online faculty development were interviewed about their experiences in developing and delivering online faculty development programs. Interviews focused on what they have found to be successful in the field. The designer interviews also covered a broad range of topics including the collection of demographic, institutional background, and course structure information. The interview protocol can be found in Appendix B. However, the coding and analysis process specifically focused on those elements of the interviews relevant to helping build community within the course and faculty motivations and barriers affecting that community. These designer interviews provided a wealth of information regarding what is currently being done across the United States in higher education online faculty development. The initial open coding resulted in 59 codes. I condensed this initial number to 16. These were grouped into categories and sub-categories. The final resulting

four categories and 12 sub-categories can be found in the codebook in Appendix F. This also influenced the design of the four-week course in this research project.

After completion of the course, the participant interviews were conducted, transcribed, and coded. Twenty-five of the 31 participants in the online course agreed to be interviewed about their experiences in the course. Interviews focused on what they felt did and did not work in the course and what they felt best contributed to building of community. The interview protocol can be found in Appendix E. The post-course participant interviews were initially coded using the same open coding strategy as the designer interviews. The initial open coding resulted in 89 codes. These were consolidated and then grouped into categories and sub-categories. The final resulting list of five categories and 17 sub-categories can be found in the codebook in Appendix G.

**Motivation and barrier analysis.** Another goal of this project was to identify potential causes increasing or decreasing faculty likelihood of completing an online faculty development program. So, the second coding step was to look at the designer and participant interviews for the identification of motivations and barriers. This involved using a deductive coding process based on the motivation and barriers frameworks identified in Chapter 2. Using this as a lens, motivations and barriers identified were grouped into the existing framework categories. Because not all motivations and barriers identified fit into the framework, necessary revisions to the framework were made as needed. These are detailed in Chapter 4.

**Discussion board analysis.** The course itself consisted of numerous activities including six discussion boards, three individual reflection activities, three knowledge check quizzes, three case studies requiring an individual response before participation in

the week's group discussion, and a final application project. The focus of this study was on the creation of community through interaction. As a result, the data analysis focused specifically on the learner-to-learner interaction points, the discussions, and how they contributed to or hindered the building of community.

The discussion boards were analyzed from two different perspectives using deductive coding. Deductive coding is done when you already have pre-defined codes and want to determine if they apply to your data. First, the existing framework developed by Delahaye Paine (2011) was applied to look for levels of engagement. This includes five levels: lurking, casual, active, committed, and loyalist. When looking at participation purely based on the number of posts, it tells an incomplete story about the level of engagement. Participants may be reviewing the discussions even though they are not contributing. There is also a varying degree of what could constitute a post. It could be a simple response, a complex sharing of resources and information, or a leadership role in the discussion encouraging further sharing by others.

Using the SpeedGrader tool in Canvas to filter contributions by participant, each participant's contributions in each of the course's six discussion boards were analyzed to determine the highest level at which they had contributed. As the structure, purpose, and instructions for each discussion potentially generated different types of responses, a separate coding rubric was created for each discussion. These coding rubrics and results of this analysis process are reported in Chapter 4.

Second, the discussion boards were coded using the existing CoI coding to look for elements of community (Garrison et al., 2000). Applying the CoI model helped determine if community, as defined by this framework, was present. I conducted both of

these deductive processes after the interview open coding to assure it did not bias that process. However, it is possible development of community and social construction of knowledge had occurred even if not outwardly evidenced in the course discussions themselves. Therefore, it was important to evaluate these results in conjunction with all points of data available, including pre-course and post-course surveys and post-course interviews. These are discussed together in Chapter 4.

### Reliability and Validity of Findings

A key to successful research is to be able to ensure appropriate quality standards are met in the collection and analysis of the data. It is crucial, especially in qualitative research, to assure the credibility of the conclusions. In traditional quantitative research, the terms validity and reliability are commonly used. There are many terms available to be used to discuss these quality standards in qualitative research (Miles, Huberman, & Saldaña, 2014). For this chapter, I will use the traditional terms of validity and reliability for the sake of clarity. Reliability is how well a tool consistently measures the same thing over time. Validity is how well a tool measures what it is intended to measure.

#### Reliability

Reliability is often not something measurable in qualitative research because the data collection is a deep measurement captured at one point in time and not necessarily what would be captured at another point. To best address reliability, I have assured the process of the study is consistent and reasonably stable over the duration of the project

(Miles, et al. 2014). I established interview protocols (Appendixes B and E). I also made a specific attempt to collect data from as broad a range of faculty participants as possible, diversifying in recruitment on many variables to assure data are collected across a range of different types of respondents and reaching out to all participants attempting to interview as many as possible.

## Validity: Triangulation

A common step to assure the internal validity of a study is the use of triangulation. This is the practice of using multiple sources of data to confirm findings (Merriam & Tisdell, 2016). To accomplish this, I compared comments and submissions provided within the course, in the post-course survey, and in the interviews. Details of this comparison are provided in Chapter 4.

The CoI framework tools have been extensively utilized and validated (Arbaugh et al., 2008; Swan et al., 2008; Swan & Ice, 2010; Community of Inquiry Network website, n.d.). The CoP framework has also been extensively researched. Therefore, results from applying these frameworks were compared to the findings from the open coding to provide external validity to those findings. Because open coding was actively done while interviews were still being conducted, flexibility was in place to add to the interview protocol to further delve into any inconsistencies found.

## Validity: Member Checking

An additional step I took to assure internal validity was the use of member checking. The process of member checking involves soliciting feedback on preliminary

findings from some or all of the study participants (Merriam & Tisdell, 2016). Resulting

codes were shared with participants to get their assurance the findings accurately

represented their experience in the course. This can be an important way of ruling out any

misunderstanding of the interpretation or meaning of the information provided. This final

step was conducted to assure the findings read true to the participants in the study. This

was done in two separate steps. First, a summary of the findings from the designer

interviews was shared with those interview participants. Feedback was received and some

adjustments were made. Second, the coding summary from the course participant

interviews, course data, and post-course survey data was shared with course participants.

Participants suggested a consolidation of one sub-category, gamification, into the sub-

category of perseverance through a commitment to self. They agreed with the remainder

of the categories although recommending that the range of experiences in each category

from positive to negative be more fleshed out. This was subsequently expanded.

## Chapter 3 Summary

This mixed-methods research study used the analysis phases outlined here to

answer the research questions about best practices in building community in online

faculty development. The components of this project built upon a pilot study conducted

in 2016, but with substantial expansion of the interaction points within the course and the

methods of data collection used. The multiple data sources helped provide a depth of

understanding of faculty experiences in the online social construction of knowledge.

These results will offer better guidance to teaching centers developing online offerings.

This will result in a more effective experience for faculty engaged in online programs. Further, it will extend to better learning experiences for students who benefit from more faculty being reached with faculty development efforts.

## CHAPTER 4: RESULTS

### Introduction

The purpose of this mixed-methods study was to identify current practices in the field for online faculty development in higher education and examine the effectiveness of these practices in building community among participants. It also looked at the motivations and barriers to the participation of faculty in online faculty development. The first three Chapters introduced the current literature available on online faculty development and outlined the priority for expanding the understanding of design and delivery best practices. The conceptual frameworks, the lens through which I explored the research data, were the Community of Practice (CoP), Community of Inquiry (CoI), and Delahaye Paine's (2011) phases of engagement which are described in detail in Chapter 2 (Garrison et al., 2000; Wenger, 1998). In Chapter 3, I outlined the methodology used to select participants, design the study course, and conduct data collection and analysis. The guiding questions of this study are:

RQ1. In what ways do design and delivery strategies in online asynchronous faculty development programs enhance the building of community through meaning, identity, belonging, and practice?

RQ2. Under what circumstances are online asynchronous discussion forums effective in building community as measured by the existing frameworks of Community of Practice and Community of Inquiry?

RQ3.   How do faculty motivations and barriers affect the formation of

community in online asynchronous faculty development programs?

In this chapter, I will report the outcomes of these data collection and analysis

efforts. All subjects are identified by pseudonyms to maintain their confidentiality. First,

data from the surveys and the course discussions will be reviewed. Then the interview

data analysis will be reviewed. After reviewing the data by collection method, the

overarching themes will be discussed. Five themes were identified. 1) Participants need

opportunities for deliberate practice that incorporate application, feedback, and reflection.

2) Participants seek to customize their experience to their unique backgrounds and needs.

3) Participants desire a learner-centered experience that elicits and values their

contributions. 4) Community creates validation through a sense of shared practice and

overcoming challenge. 5) Through engagement, community fosters perseverance to

overcome barriers. Results from this study may contribute to future practices in online

faculty development and its success in improving student outcomes.

## Pre-Course and Post-Course Survey Results

Two surveys were administered to the online faculty development participants.

First, a pre-course survey (Appendix C) was sent to collect demographic data and a

baseline indication of participant comfort level and familiarity with course topics. Sixty

of these surveys were collected. Second, a post-course survey reassessed participation

comfort with the course topics and applied the CoI measurement tool. All 31 course

participants were invited to complete the post-course survey. Twenty-eight of these

surveys were collected. Because of the small number of responses, the quantitative data

in this section is only presented with descriptive statistics and not analyzed using

inferential statistics. The reminder of this section details a summary of the data results.

**Mastery of Learning Objectives**

Participants were asked to rate their perception of mastery of the course learning

objectives. The scale for these items was 0=Not at all to 7=Complete mastery. The data

presented in Table 4 is divided by those who completed the course and those who did not,

but still completed the post-course survey.  The group who completed all components of

Table 4

*Participant Mastery of Learning Objectives*

|  | Completed through | | Completed course |
|---|---|---|---|
|  | Module 2 of 4 (n=4) Mean(SD) | Module 3 of 4 (n=4) Mean(SD) | (n=20) Mean(SD) |
| Explain the basic learning process in terms of working, long-term memory and information retrieval. | 4.00(1.15) | 3.75(0.96) | 4.90(0.97) |
| Describe the environmental factors that can impede or improve the learning process. | 4.25(0.96) | 3.75(0.96) | 5.30(1.30) |
| Assess areas in your course where students struggle most with comprehension and explain why. | 3.75(0.96) | 3.75(0.96) | 4.85(0.88) |
| Generate lesson plans that incorporate tools to maximize understanding for the adult learner and overcome common learning barriers. | 3.50(1.29) | 4.00(1.15) | 5.00(0.79) |
| Total | 3.88 | 3.81 | 5.01 |

SD = standard deviation

the course felt they had the best mastery of the material with an overall mean of 5.01

(standard deviation=1.00). The groups completing through Module 2 and Module 3 rated

themselves at the midpoint of the range with overall means of 3.88 (standard

deviation=1.02) and 3.81 (standard deviation=0.91) respectively. This indicates that even

though they did not complete all elements of the course, they still felt they understood the

material. Converse to expectations, however, the group completing through Module 2

rated themselves slightly higher than those completing through module 3.

**Presence of Community of Practice**

There are four components to the CoP model: meaning, identity, belonging, and

practice. Each is seen as a spectrum of membership in a community. The post-course

survey asked participants their level of agreement regarding how well the course affected

their sense of each of the first three elements of meaning, identity, and belonging. For the

element of practice, participants were surveyed on their confidence levels both before and

after participating in the course. All elements had a rating scale of Strongly disagree (1);

Disagree (2); Neither agree or disagree; (3); Agree (4); Strongly agree (5). In the

following sections, I will detail participant responses in each of these areas.

**Meaning.** The first component is meaning or the process of building learning

through the shared experience in the community (Wenger, 1998). Ratings in this category

indicated how faculty felt participation in the course affected their sense of meaning as a

teacher. Participant responses had an overall mean of 4.70 (standard deviation=0.54)

indicating they strongly agreed the experience helped improve their sense of meaning as a teacher.

Table 5 details the individual mean and standard deviation for each of the five categories within the component of meaning comparing those who completed the course to those who only completed through Module 2 and through Module 3. Completers rated the item "Provided added value to my teaching" highest with a mean of 4.90 (standard deviation=0.31). They also rated highly the items "Helped me gain insight that will enhance my teaching" and "Improve my skills in teaching" with the means of 4.85 (standard deviation=0.37) and 4.80 (standard deviation=0.41) respectively. Their lowest rated item, although still at the Agree level, was "Benefited my daily work" with mean 4.40 (standard deviation=0.75). This would indicate they found value in the information but were not yet fully confident about how that might translate into application in their teaching. The Module 2 and Module 3 non- completer groups actually rated this item

Table 5

*Participant Community of Practice-Meaning*

| Outcome 1: Meaning - My experience in this course: | Completed through Module 2 of 4 (n=4) Mean (SD) | Completed through Module 3 of 4 (n=4) Mean (SD) | Completed Full Course (n=20) Mean (SD) |
|---|---|---|---|
| Helped me gain insight that will enhance my teaching. | 4.75(0.50) | 4.75(0.50) | 4.85(0.37) |
| Helped me negotiate an understanding of the material. | 4.25(0.50) | 4.75(0.50) | 4.75(0.55) |
| Provided added value to my teaching. | 4.75(0.50) | 4.50(0.58) | 4.90(0.31) |
| Improved my skills in teaching. | 4.50(0.58) | 4.50(0.58) | 4.80(0.41) |
| Benefited my daily work. | 4.50(0.58) | 4.75(0.50) | 4.40(0.75) |

SD = standard deviation

higher than the completer group with means of 4.50 (standard deviation=0.58) and 4.75

(standard deviation=0.50) respectively. For the remaining items, the non-completer

groups rated their responses at or below those of the completer group. Although all

responses had means in the Agree to Strongly agree range. This would show that a sense

of meaning can be gained by engaging in the community even if all course elements are

not completed.

**Identity.** The component of identity exists when the community has a connection

formed through shared interests (Wenger, 1998). Ratings in this category indicate how

participants felt partaking in the course affected their sense of identity as a teacher.

Participants also rated this category overall in the Agree to Strongly agree range with an

overall mean of 4.13 (standard deviation=0.82) indicating they agreed the experience

helped improve their sense of identity as a teacher. Table 6 details the individual mean

Table 6

*Participant Community of Practice-Identity*

| Outcome 1: Identity - My participation in this course affected my: | Completed through Module 2 of 4 (n=4) Mean (SD) | Completed through Module 3 of 4 (n=4) Mean (SD) | Completed Full Course (n=20) Mean (SD) |
|---|---|---|---|
| Attitude toward teaching. | 3.75(1.26) | 3.75(0.50) | 4.50(0.61) |
| Understanding of my role as a teacher. | 3.75(1.26) | 3.75(0.50) | 4.45(0.60) |
| Ability to influence the world as a teacher. | 4.25(0.50) | 4.25(0.50) | 4.20(0.77) |
| Recognition by others in my position as a teacher. | 3.75(0.96) | 3.25(0.96) | 3.50(0.95) |
| Self-confidence as a teacher. | 4.00(0.82) | 4.75(0.50) | 4.40(0.60) |

SD = standard deviation

and standard deviation for each of the five categories within the component of meaning comparing those who completed the course to those who only completed through Module 2 and through Module 3. When looking at the completers against the non-completers, again the results are mixed. The completers rated highest the item regarding how the course affected their "Attitude toward teaching" with a mean of 4.50 (standard deviation=0.61). But they rated lower than the non-completers in the categories of "Ability to influence the world as a teacher" and "Self-confidence as a teacher" with means of 4.20 (standard deviation=0.77) and 4.40 (standard deviation=0.60) respectively.

**Belonging.** The third component, belonging, requires members to work together in shared activities learning from each other (Wenger, 1998). Ratings in this component indicate how participants felt participation in the course affected their sense of belonging as a teacher. Participants' ratings had an overall mean of 3.93 (standard deviation=0.73) indicating, they agreed the experience helped improve their sense of identity as a teacher. Table 7 details the individual mean and standard deviation for each of the five categories within the component of belonging comparing those who completed the course to those who only completed through Module 2 and Module 3. In this category, the completers rated the items of "Gave me a sense of a safe environment to learn in" and "Motivated me to share work-related knowledge" highest with means of 4.45 (standard deviation=0.60) and 4.15 (standard deviation=0.59) respectively. However, on the items "Gave me a sense of a safe environment to learn in" and "Had influence on my daily work" those completing through Module 3 had higher ratings than those completing the entire course. Again, this indicates that the value likely comes from the engagement in the course and not necessarily the completion of all elements.

Table 7

*Participant Community of Practice-Belonging*

| Outcome 1: Belonging - My interactions with others in this course: | Completed through Module 2 of 4 (n=4) Mean (SD) | Completed through Module 3 of 4 (n=4) Mean (SD) | Completed Full Course (n=20) Mean (SD) |
|---|---|---|---|
| Helped me build relationships and network with others. | 3.50(0.58) | 3.00(0.82) | 3.70(0.57) |
| Gave me a sense of a safe environment to learn in. | 3.75(0.96) | 4.50(0.58) | 4.45(0.60) |
| Gave me a sense of belonging. | 3.25(0.50) | 3.75(1.26) | 3.85(0.67) |
| Motivated me to share work-related knowledge. | 3.75(0.50) | 3.75(0.96) | 4.15(0.59) |
| Had influence on my daily work. | 3.50(0.58) | 4.25(0.50) | 3.95(0.83) |

SD = standard deviation

**Practice.** The final component, practice, refers to explicitly shared work in which people with common interests can sustain mutual engagement through action (Wenger, 1998). To evaluate the effect their engagement together in the course had on their confidence level in practice, participants were asked to rate their level of confidence with the five key topics from the course on a scale of Strongly disagree (1); Disagree (2); Neither agree or disagree; (3); Agree (4); Strongly agree (5). Note this is the only item that was asked both on the pre-course and post-course surveys. Therefore, here a comparison can also be made of participant change over the time of their participation in the course. Table 8 shows the pre- and post-confidence ratings of those 28 individuals who completed both pre- and post-surveys.

Overall participants showed an increase in the mean rating of confidence in all five areas. For example, in the course topic of formative quizzing, participants had a pre-

Table 8

*Comparison of Pre and Post-course Confidence Levels of Participants*

| | Pre-Survey | Post-Survey | | |
| | | Completed through Module 2 of 4 (n=4) | Completed through Module 3 of 4 (n=4) | Completed Full Course (n=20) |
| Course Topic | All participants (n=28) | Mean (SD) | Mean (SD) | Mean (SD) |
| --- | --- | --- | --- | --- |
| Formative Quizzing | 3.55(1.05) | 5.00(0.00) | 4.75(0.50) | 4.95(0.22) |
| Spaced Practice | 3.05(0.94) | 5.00(0.00) | 4.75(0.50) | 5.00(0.00) |
| Distributed Practice | 2.76(1.03) | 4.75(0.50) | 4.75(0.50) | 5.00(0.00) |
| Growth Mindset | 3.68(1.06) | 5.00(0.00) | 4.75(0.50) | 4.95(0.22) |
| Scaffolding | 3.52(0.87) | 4.50(0.58) | 4.50(0.58) | 4.40(0.75) |

SD = standard deviation

course mean rating of 3.55 (standard deviation=1.05) placing them only slightly above a

neutral rating. Those completing the course increased their mean rating to 4.95 (standard

deviation=0.22) just below the Strongly agree rating. However, those who only

completed through Module 3 also increased to the Strongly agree range with a mean of

4.75 (standard deviation=0.50). And those completing only through Module 2 rated

themselves highest with a mean of 5.00 (standard deviation=0.00). Alternatively, in the

topic of scaffolding, completers had a lower confidence level (mean=4.40, standard

deviation=0.75) than the non-completers (mean=4.50, standard deviation=0.58). This

topic was rated the lowest among all participants as far as confidence. This is represented

graphically in Figure 8.

Overall participants' indications on the post-course survey show an increased

sense of community in all four components of the CoP model. However, both participants
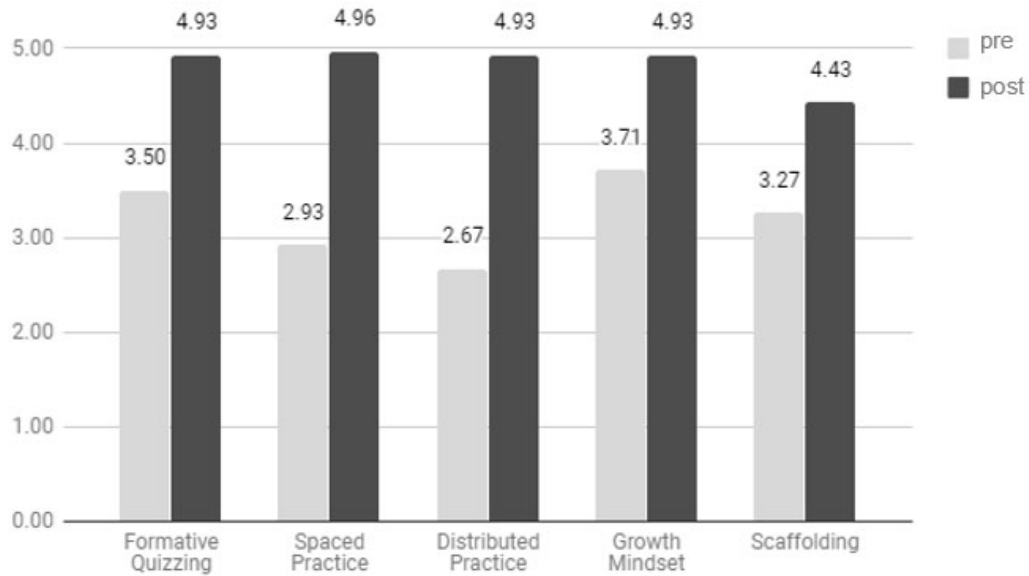
Figure 8. Mean of Pre-Survey versus Post-Survey Confidence Levels

completing the course and those only completing early modules rated these elements high. This is particularly interesting in the areas of mastery of learning objectives and practice where there was little distinguishing the results of those two groups. Thus, it is possible to feel a sense of mastery and confidence even without completing all elements of a course.

**Presence of Community of Inquiry**

The CoI network has created a validated survey tool for measurement in online courses (Arbaugh et al., 2008; Swan et al., 2008; Swan & Ice, 2010; Community of Inquiry Network website, n.d.). This tool is broken down by the model's components: teaching presence, social presence, and cognitive presence. This tool was used in this study to help explore participants' perceptions of how well these three components of CoI existed in the course. This instrument can be found at the end of the post-course survey (Appendix D). All items had the same rating scale Strongly disagree (1); Disagree

(2); Neither agree or disagree (3); Agree (4); Strongly agree (5). On the survey, sections were not titled by type of presence to minimize participant biases.

The sample size precludes running inferential statistics such as comparing t-test results. Therefore, the mean, standard deviation, median, and mode are presented in Table 9. Although overall the teaching presence elements received the highest rating (mean=4.31, standard deviation=0.81, median=4.00, mode=4.00), at the individual level, some items rated lowest were also in this category related to instructor encouragement in the course. These were "the instructor encouraged course participants to explore new concepts in this course" which received two disagree and 13 neutral ratings; "instructor actions reinforced the development of a sense of community among course participants" which received three disagree and 11 neutral ratings; and "the instructor helped to focus discussion on relevant issues in a way that helped me learn" which received five disagree and 11 neutral ratings. This reinforces statements from the designer interviews, how the course is perceived is equally as dependent on the facilitator as on course design. I discuss this further under later in this chapter and in my summary in Chapter 5.

Table 9

*CoI Participant Post-Course Survey Responses*

| (n=28) | Mean (SD) | Median | Mode |
|---|---|---|---|
| Teaching Presence (TP) | 4.31(0.81) | 4.00 | 4.00 |
| Social Presence (SP) | 4.23(0.73) | 4.00 | 4.00 |
| Cognitive Presence (CP) | 4.30(0.67) | 4.00 | 4.00 |

SD = standard deviation

## Course Discussions Outcomes

### Engagement in Discussions

The course discussions were analyzed for levels of participation using the Delahaye Paine (2011) engagement model. This section contains a description of the six course discussion boards followed by the analysis of participant engagement levels. In applying the model, the levels were considered to build upon each other. Someone identified as a committed poster was assumed to also be participating at all lower levels. Each course participant was ranked at the highest level that they contributed to a discussion board although they may have contributed at multiple levels. It is not possible to know who was lurking on a discussion versus who did not read the discussion at all. Therefore, all course participants who did not make any posts were assumed to be lurkers.

In Table 10, each of the six discussion boards is listed with a short description of submission formats and the number of participants at each engagement level. Because

Table 10

*Course Discussion Engagement*

| Discussion Title | Discussion Board Submission Format | Highest Level of Engagement by Number of Participants | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | | Lurking | Casual | Active | Committed | Loyalist |
| Week 1 Introductory "Icebreaker" | (1) introduction (video) (2) responses to peers (text) | 2 | 1 | 6 | 18 | 4 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Week 1 Case Study Discussion (small groups) | (1) initial response to case multiple choice options (text) (2) posting about relevant personal experience (text) (3) consensus building posts (text) | 4 | 1 | 11 | 8 | 7 |
| Week 2 Case Study Discussion (small groups) | (1) initial response to case multiple choice options (text) (2) posting about relevant personal experience (text) (3) consensus building posts (text) | 7 | 1 | 12 | 8 | 3 |
| Week 3 Case Study Discussion (small groups) | (1) initial response to case multiple choice options (text) (2) posting about relevant personal experience (text) (3) consensus building posts (text) | 7 | 1 | 13 | 8 | 2 |
| Week 4 Peer review of final project drafts | (1) lesson plan draft (document upload) (2) response to peers (text) | 12 | 0 | 2 | 16 | 1 |
| OPTIONAL: Water Cooler Discussion (ongoing) | (1) resources (web links) (2) questions (text) (3) responses to peers (text or photos) | 17 | 0 | 4 | 5 | 5 |

each discussion board was different in its expectations and the level of cognitive processing required, different rubrics were defined for scoring posts. Each of these is described in the following sections for each discussion board type.

**Introductory "icebreaker" discussion.** This discussion provided an opportunity for all participants to introduce themselves to the whole group. Participants were

encouraged to make their introduction via a video post and include the type of learner they work with, their discipline, the area they struggle most with, an area they would most like to work on improving in their course design, and an interesting fact about themselves others might not know. They were then also encouraged to respond to at least two peers noting areas they have in common. This discussion was also intended to provide an opportunity for participants to practice using the discussion tools within the course. Twenty-nine of the 31 participants contributed to this initial discussion board and engaged in interactions resulting in 108 reply posts.

Participants were ranked based on their level of engagement on the board. For this board, a casual participant was one that responded to peers but did not make their own introduction. An active participant was one that made an initial post but did not return to reply to peers. A committed participant was one that both posted their own introduction and replied to peers. A loyalist was a participant who also shared resources, responded to questions, or otherwise encouraged the participation and community building of others in addition to their own contributions. The two participants not contributing to this discussion were coded as lurking. One just responded but did not post their own introduction, so they were coded as a casual participator. Six just posted their own introductions but did not respond to peers so were coded as active. The largest group of participants, 18, followed the directions and posted an initial introduction and responded to the introductions of at least two of their peers. They were coded as committed. Four participants, in addition to their introductions and peer responses, went on to provide resources or other guidance to their peers including technical support helping them get their videos posted. These participants were coded as loyalists.

*Case discussions.* Based on advice from the designer interviews the first three weekly discussions were designed as case-based where a specific case related to the material was presented, prior to engaging in the weekly readings where participants made an initial response. Then after completing the readings, participants worked together in small groups to discuss possible outcomes of the case and reach a consensus as a group on an outcome prediction. Further, they were asked to share their thoughts on how the case might play out in their specific discipline. The goal was to encourage the group to work together through the stages of the CoI model. All participants contributed to at least one of the weekly discussions, although some groups were far more active than others. The total number of posts each week was fairly consistent. There was a slight drop off in the number of initial posts over the three weeks, but the response numbers continued to be consistent. This is a result of those who were continuing to contribute doing so at an increased rate.

The same engagement rubric was used to rank all three case discussions for the level of engagement since the requirements were the same. Participants who commented on other's posts but did not provide their own response to the case or examples and those who only provided a brief note about their own opinion with little to no explanation or examples were coded as casual. Those providing their own response and examples but who did not reply to others were coded as active. Those who logged in on multiple dates and both provided their own perspective and responded to others were coded as committed. Those who stepped into a leadership role to guide their group to consensus were coded as a loyalist. The exact numbers for each week are presented in Table 10. It is interesting to note that while the number of posts per person increased, the level of

activity in the active and committed categories remained fairly consistent, and there was actually a drop off in the number of loyalist participation. This could have been due to the fact that after the first week they felt comfortable with the process and so there was less of a need for those guiding and leadership elements to keep the group contributing.

   ***Peer review of final project drafts.*** In the final week of the course, the focus was exclusively on application of the material. Participants were asked to create a lesson plan which applied the material learned in the first three weeks of the course. Mid-week they posted a draft of their plan on the final project discussion board. They then provided feedback on at least two of their peers' lesson plans. They were encouraged to use the feedback received as well as what they learned from viewing other's drafts to revise their own final plan. Nineteen participants shared their lesson plans. Seventeen of those individuals also provided feedback on their peers' lesson plans. Many of those individuals responded back resulting in a total of 60 replies on the discussion board. This peer feedback exercise, therefore, resulted in more posts than found on each of the case study discussion boards. Almost none of these replies were just affirmative. They all contained responses to the feedback and a continuation of the interaction.

   For coding of this discussion board on the engagement spectrum, the following rubric was used. Participants who only provided feedback but did not post their own work were coded as casual. Participants who posted their final project but did not provide feedback were coded as active. Participants both providing feedback and posting their own work were coded as committed. Those who took on a leadership role in the discussion, shared resources, or went above and beyond to provide feedback to more than the minimal two peers were coded as loyalist. The majority by far for this last discussion

fell into the committed category. Of the 20 participants completing the course, 16 posted their draft and provided feedback to at least two peers. They were coded as committed. Another one participant not only did that but went on to provide feedback to five peers and post procedural questions on the board assuring everyone understood the process. She was coded as a loyalist. Two participants posted their drafts but did not provide any peer feedback. They were coded as active. And one participant that did submit a final project opted not to participate at all in this final discussion. They, along with the other 11 participants who opted not to complete the final project were coded as lurking.

*Water cooler discussion.* This discussion was created as a place for participants to post questions, share resources, or interact socially. The majority of the posts were resource sharing. Some also involved collaboration on the week three activity, a scavenger hunt and reflection. Seven individuals made a total of 12 initial posts. An additional seven individuals contributed in replies to those posts making the total number of participants in the watercooler discussion 14 with a total of 20 responses. Because this was not a required discussion, a rubric was used to rank the engagement slightly differently. If a question was posted or general agreement was noted, the poster was ranked as active. If a detailed response was made about something that had been posted or a question was responded to, they were ranked as committed. If a resource or example of how something could be implemented was shared, they were ranked as loyalist. Four participants were coded as active, five as committed, and five as loyalist.

Based on the number of discussions that were coded as active, committed, or loyalist it can be concluded there was a high level of engagement within the course. However, it is also notable that a fair number of participants were only logging in once a

week to make their posts and not returning later in the week to respond to peers. This is particularly true for the case discussions where about half of participants engaged in the discussion were coded in the active or casual categories as opposed to committed or loyalist. This may reflect a flaw in the course design requiring participants to return multiple times throughout the week to fully participate. It was only in the peer review activity in week 4 that a large amount of activity involving returning to the discussion over time could be seen. This is evidenced by the larger number of participants coded as committed in that discussion. This will be explored more in the next section where these discussions are looked at using the qualitative CoI coding framework.

**Community in Discussions**

The CoI framework has an already established thematic coding template which can be seen in Table 2 in Chapter 2 (Community of Inquiry Network website, n.d.). This coding was applied to the discussion elements of the course to determine if community, as defined in this model, was found. While some of the elements of this model were found in the course, not all could be identified. The model is broken into three primary elements: cognitive presence, social presence, and teaching presence (Garrison et al., 2000). Below I will define social and cognitive presence as well as their categories and sub-components. The element of teaching presence applies to the design and facilitation of the course. While the discussions were also reviewed for elements of teaching presence, none were found. This was expected given the course structure did not include participant engagement in the design and facilitation.

**Cognitive presence.** This learning process and outcome is considered the goal of education and is vital to critical thinking. The quality of cognitive presence is based on the quality and quantity of critical thinking, collaborative problem-solving, and construction of meaning occurring. There are four categories identified within this element that show a movement of thought through the learning process. These categories include: triggering event, exploration, integration, and resolution.

*Triggering event.* The first category of this thematic coding model is the event which triggers the inquiry or critical thinking process moving learners out of a state of equilibrium. Sub-components to this category include: a sense of puzzlement and recognizing the problem (van Schie, 2008). In this course, the initial triggering event was often provided by the discussion board prompt itself in which participants had to respond to a list of question prompts or review a case study and come to a consensus on a prediction of what would happen next. Therefore, there were only minimal elements of this category seen in the weekly discussion boards such as the following example: "How did you think students would react to this new strategy?" (Mary-participant, Discussion Week 1, Group 1, 5). The struggles and challenges identified in participants' introduction videos also fit into this category.

*Exploration.* The second category involves the learner exploring available information to try to return to their state of equilibrium. Learners move between internal activity and interacting with others to gain a better understanding. Sub-components to this category include divergence, information exchange, suggestions, brainstorming, and conclusions (van Schie, 2008). In the course discussions, this category was where the majority of activity was seen, particularly in the sub-categories of information exchange

and conclusions. For example, participants shared information by providing relevant examples from personal experience. "I actually use a similar strategy in my classes--presenting an example first, then having students work out a similar problem on their own" (Kerri-participant, Discussion Week 1, Group 2, 24-25). Participants shared conclusions regarding the case study in which they make an initial attempt to connect information. "I do think her words could be very de-motivating for many" (Mary-participant, Discussion Week 3, Group 1, 5).

*Integration.* The third category involves the learner beginning to construct meaning from the information collected in the exploration phase. Participants start thinking about ways the information can be applied and connected to prior knowledge. Sub-components to this category include convergence, connecting ideas, and creating solutions (van Schie, 2008). Most groups had at least some components of integration, but almost exclusively in the sub-component of connecting ideas. "I believe the technique would be effective as it requires tapping into memory soon after the students presumably completed the reading" (Helen-participant, Discussion Week 1, Group 1, 27-29).

*Resolution.* The fourth category, resolution, requires application of learning. In this phase, the participant or group finds resolution to the initial triggering event. Sub-components to this category include: applying new ideas, testing solutions, and defending solutions (van Schie, 2008). Components of this can be found in course discussion forums, although more often this is found later in the application of course materials or in the reflection components of a course (Tirado Morueta, Lopez, Gomez, & Harris, 2016). In this course, there were a few examples of resolution from those participants coming in with more prior knowledge of the material. "When I assigned the random reading

quizzes, the discussions in my class greatly improved as did the exam grades. So now I use this modified structure and I explain to my students why I assign random reading quizzes" (Amy-participant, Discussion Week 1, Group 2, 88-90).

*Evidence of cognitive presence.* There was ample evidence found in the discussions of cognitive presence. The strongest categories present were those of exploration and integration. Within those, the most commonly seen examples were information exchange, conclusions, and connecting ideas. Some elements of resolution were also seen, mostly in the sub-components of applying new ideas and testing solutions. These were mostly found in the final discussion board in which participants were planning the application of their learning. Although in some areas participants shared examples where they had already incorporated concepts before, they noted that the revisiting of these concepts helped them gain a deeper understanding or put a name and evidence base to a practice they already had in place.

**Social presence.** This category represents the individual's ability to present themselves as a real person by projecting their personality into the online environment (Garrison et al., 2000). This can also be described as the "degree of connectedness" felt by participates within an online course (Richardson, Besser, Koehler, Lim & Strait, 2016, p. 84). This element has three categories within it: emotional expression, open communication, and group cohesion.

*Emotional expression.* As with the other categories, the text-based environment can make expression of emotion difficult. Garrison and colleagues (2000) assert that the expression of emotion is seen in the learner's ability to provide comments related to the educational experience. This ability helps support motivation and persistence, which is

critical to the learning process. Sub-components to this category include self-disclosure, use of humor, and use of emoticons (van Schie, 2008). One participant provided self-disclosure about her struggle with keeping up. "For my online class I like to post motivational quotes and To Do's list each week. I would post 'it's never too late to start' for myself this week, as I am 5 days behind in this class!" (Samantha-participant, Water cooler discussion, 110-111). Another used humor regarding forgetting an assignment. "Almost seems like a pun to be forgetting about an assignment on memory" (Kerri-participant, Discussion Week 1, Group 2, 4-5).

*Open communication.* This category is exemplified by reciprocal and respectful interactions. This is represented by efforts at mutual awareness and respect. Sub-components to this category include vocatives, salutations, and inclusion (van Schie, 2008). "I wasn't aware of the forgetting curve I was under the assumption if you studied the material the evening before that was enough" (Alice-participant, Discussion Week 1, Group 4, 94-95). "My initial thought was that my students are adults and it should be their job to enforce preparing for class" (Amy-participant, Discussion Week 1, Group 4, 87-88). "I think the challenge I have with the initial scenario and most of the materials for consumption this week was that they related to learning content that was not soft skill based" (Lucy-participant, Discussion Week 1, Group 3, 80-82).

*Group cohesion.* Finally, the category of group cohesion requires learners see themselves as part of the group rather than as individuals in the course. Sub-components to this category include agreement, complementing, asking, referring, quoting, and continuing threads (van Schie, 2008). The largest percentage of activity was in this category. The groups worked together steering the conversation, encouraging each other,

106

arguing their side of the debate and compromising to come to a consensus response. Participants frequently acknowledged agreement. "I agree that students find this process engaging and motivating" (Helen-participant, Discussion Week 1, Group 1, 143). "I agree with writing the objectives from the view of the student" (Katlin-participant, Discussion Week 4, Group A, 483-484). There was also a lot of complementing and expression of appreciation "Thanks for the summary of the posts" (Kerri-participant, Discussion Week 1, Group 2, 130). And group members asked questions and guided the conversation. "Since we are asked to come to consensus on Part 1, should we begin by sharing our 'votes' for this portion to understand where everyone is at, and then dive in deeper if needed?" (Pamela-participant, Discussion Week 1, Group 4, 3-5).

    ***Evidence of social presence.*** It was also found that social presence was present in the discussion interactions. This was mostly in the area of group cohesion, particularly in the sub-components of agreement, asking, and complementing. This might have been in part because of the requirement for the case study groups to work together to gain consensus. However, levels in these sub-components remained equally high in other discussion boards as well. The groups also shared a lot through self-disclosure a sub-component of emotional expression. Overall the group was very convivial and supportive, likely due to the nature of their background as educators.

    Overall elements of CoI were present within the course. Particularly the elements of social presence and cognitive presence which could be seen in the discussion boards. No negative or hindering comments were found. The tone was collegial and supportive throughout even where there was disagreement or where critical feedback was being given. Insufficient evidence was present to specifically identify teaching presence solely

through applying this coding strategy to the course discussion boards. As noted in other studies applying this thematic coding, it can be hard to find evidence of all of the elements of CoI, such as resolution or teaching presence, solely within the discussion interactions in the course (Tirado Morueta, et al., 2016). Therefore, it is important to also look at the participants' perspectives of the discussion. Factors potentially contributing to this can be found in the participant interviews and the motivations and barriers sections which follow. First, I will turn to the findings on motivations and barriers.

## Motivations and Barriers

In reviewing the results of this study, it is also important to look at them from the perspective of motivations and barriers to completion of an online faculty development course. Utilizing the motivation and barrier categories identified in the literature review, I will review the designer and participant interviews where motivations for completion where identified. Then the same will be done for areas where barriers were identified.

### Enhancing Competence, Relatedness, and Autonomy

Motivations for initial engagement include those that enhance competence, relatedness or social interaction, and autonomy or sense of self. Table 11 breaks these categories down into sub-categories and provides examples from the designer and participant interviews. Overall the motivation categories originally identified through the literature search aligned with the categories identified by the designers and participants. However, some adjustments were made where motivations identified did not completely

fit within the original categories. The category of "Gain support or encouragement form

department/leadership" was retitled to "Meet a need or desire of department/leadership."

This allowed the inclusion of meeting departmental, institutional, or discipline

Table 11

*Revised Faculty Motivations to Engage in Faculty Development*

| Category | Examples |
|---|---|
| Competence | |
| Remedy dissatisfaction with/curiosity about teaching strategies | "I'm always looking for new ways to engage my students" (Jolene-participant, 31-32).<br><br>"At this point I'm trying to learn everything that's out there" (Ruth-participant, 8). |
| Meet a specific need for information | "I thought, well at least [I'll gain] some background that I can contribute to our department when we start working on the certificate program" (Annabelle-participant, 100-101).<br><br>"I had a motivation, because I'm going to be teaching courses in the future" (Cadence-participant, 178-179). |
| Maintain skills previously gained in faculty development | "I did this to kind of review and update my knowledge in cognitive side of learning. And it was a great review and knowledge update" (Lydia-participant, 19-20).<br><br>"Even if it's redundant even something I've heard before, it could be taken into new interpretation or different insights" (Paul-participant, 201-202). |
| Relatedness (Social integration) | |
| Gain opportunities for interpersonal connections with colleagues | "Educators tend to be, especially people who do extra things like this, tend to be really supportive and engaging" (Bryan-participant, 131-132).<br><br>"I don't have a lot of local colleagues that are particularly interested in looking at just, studying learning itself as a science. |

| | |
|---|---|
| | So, I'm kind of trying to actively trying to seek people out that are interested in this, too" (Jasmine-participant, 62-264). |
| | "So, if you want to talk about non-monetary, definitely the collegiality, I think is the biggest motivator" (Carlynn-designer, 176-177). |
| Improve student experience | "And I want to give the kids students the best experience. So, I don't want to be stale" (Elizabeth-participant, 125-126). |
| | "I want to make sure that I'm providing a good product [for the students]" (Cadence-participant, 179-180). |
| | "What motivates them is I think seeing transformation in their students because of what they're changing themselves" (Rachel-designer, 182-183). |
| Meet a need or desire of department/ leadership | "It was also trying to get that experience and putting stuff on my CV. Which sounds terrible, but I mean, it was the university was like you know you need to do these things" (Amy-participant, 10-11). |
| | "[Department chair] got a list of who signed up and she was going to get a list of who finished" (Sadie-participant, 147-148). |
| | "Our university has a policy where any instructor that wants to teach completely online or completely blended must get this certificate by taking this training" (Cara-designer, 70-71). |
| | "We have had now Dean's that are moving programs online that have either strongly encouraged or required their faculty members to participate in the course. And we've seen significant differences in the level of participation" (Dave-designer, 292-294). |
| Autonomy (Sense of self) | |
| Remedy low self-confidence with respect to teaching | "My doctorate is in biochemistry. And back when I did my PhD in the early 2000s, people weren't really talking about teaching. I mean, we didn't learn about teaching. We just were at the lab bench. And so, I always feel like I have something to work. Because I'm not formally trained in that" (Helen-participant, 43-46). |
| | "I would like to improve my teaching practice" (Bryan-participant, 47). |

|  | "I'm not in any kind of pretense that I like, know what I'm doing" (Ruth-participant, 8-9). |
|  | "Man, I don't think faculty like to not know how to use things. So, they definitely don't want to look ... stupid in front of their students. I think most of them just want to be able to do it" (Maggie-designer, 120-122). |
| Gain personal satisfaction | "It was really to meet my own personal goals … sense of completion for finishing what I started" (Paul-participant, 66; 194). |
|  | "Teachers are typically, you know you have that internal motivation to do things and seek out new learning. You know, that's me. I just I like participating in that kind of stuff just because it's interesting. It's fun. I find that fun" (Ben-participant, 122-124). |
|  | "They want to have the best course they can possibly offer" (Bianca-designer, 88-89). |
| Address a desire for greater autonomy (E.g., more control regarding what happens in the learning environment) | "I'm still building my confidence as a teacher. And I suspected things for a long time, but I've still been trying to like other people are doing because you want to get tenure and you don't want to rock the boat too much, I guess. But I kind of thought, okay, let me learn about how college students learn. And that might give me more confidence to go ahead and do the things that I really want to do" (Amy-participant, 62-66). |
|  | "Our university has a policy where any instructor that wants to teach completely online or completely blended must get this certificate by taking this training" (Cara-designer, 70-71). |
| Gain accolades or other rewards | "The Most Valuable Player thing that was brilliant. You know, this whole thing about the point, you know you can earn all these points, and this is the highest. That was, you know, motivating in some way" (Stella-participant, 198-199). |
|  | "Digital badges, it's like a gold star, it means a lot, they like to share on social networks and on CVs" (Emma-designer.188-192). "It also helps to provide some kind of stipend or recognition for their time, like of course release would be ideal" (Carlynn-designer, 177-178). |

expectations for faculty development participation. And the category of "Remedy dissatisfaction with currently used teaching strategies" was adjusted to "Remedy dissatisfaction with/curiosity about teaching strategies" to address participants' expressed general sense of curiosity about what other tools and strategies might be available. And in the category of "Meet a specific immediate need for information" the "immediate" need was removed as many participants identified specific needs that were not necessarily immediate. The categories of "Seek greater, deeper interpersonal connections" and "Gain opportunities to interact with colleagues" were combined into "Gain opportunities for interpersonal connections with colleagues." These two categories seemed to not have distinguishing components from each other and there was almost complete overlap between the categories in the data analysis. Therefore, the combination was necessary.

**Overcoming Intrapersonal, Interpersonal, and Structural Barriers**

The findings of this study supported this structure in the literature for identifying barriers. Table 12 provides barriers identified by faculty and designers within these constraint levels. I further broke down the examples into sub-categories which are encompassing of the potential types of barriers participants might encounter during online faculty development participation.

Many participants struggled with substantial barriers during their participation including juggling multiple online faculty development programs, teaching condensed summer courses, having a newborn child, starting a new job, being fresh out of their own Ph.D. program, personal health issues or surgeries, and dealing with the severe or

Table 12

*Barriers of Online Faculty Development Participants*

| Category | Examples |
|---|---|
| <u>Intrapersonal</u> | |
| Intimidation by the online learning environment | "I think a lot of the group members in my group they're used to doing this. And so, I think it's just my lack of experience that more experience with this will only make me better at being an on online group member" (Dahlia-participant, 424-426). |
| | "It sort of feels a little bit Facebookish that you're presenting what you want other people to see of you, rather than really being able to get to know people" (Cali-participant, 51-53). |
| | "I'm a videophobe. I really, it's my stretch as an instructor, right? I'm really, nobody likes it. But I really have avoided it" (Sadie-participant, 129-130). |
| Fear of trying new things | "It's always uncomfortable when you have to be creative" (Ben-participant, 133). |
| | "I don't think everybody's at the same place with openness to trying maybe new things" (Helen-participant, 112-113). |
| Lack of commitment | "I think that if it was for a grade that was on my transcript, I don't know, maybe that would have pushed me a little bit more" (Samantha-participant, 77-78). |
| | "I think if it were, if I were a paying student, if that makes sense, then I would have been more deeply [vested]. ... I really enjoyed it. But it was a little more superficial that if I were a student" (Jolene-participant, 23-25). |
| | "[Faculty participants] don't believe they should work [including participation in development] without getting paid" (Wanda-designer, 266). |
| Feeling less knowledgeable | "I didn't have as much experience to draw on to have that discussion. And some of the some of the terminology even I was not as familiar with and had to … look that up and then just some of the perspective of an instructor, the verbiage, I wasn't as comfortable with, or is it familiar with" (Cali-participant, 156-159). |

| | |
|---|---|
| | "Instructors were talking and using terminology very talking academic talk instead of layman. And I prefer layman talk" (Dahlia-participant, 238-239). |
| | "I think that in the discussions there were a few contributions which I could not understand because they were highly technical and speaking of software for example" (Jasmine-participant, 146-147). |
| | "It's terrifying because they all of a sudden feel like they're deficient in their teaching because we've pointed that out and it's a lot of work" (Jake-designer, 399-400). |
| Organizational challenges | "Things come up so quickly. And I'm like, Oh God, I thought he got that done" (Helen-participant, 31-32). |
| | "I had myself on this schedule where I was doing your project at the beginning of the week. And this other project I was working on toward the end of the week. And so, I'd be one of the first to post a lot of time. And then I wouldn't get around to reading everybody else's. And I realized that I didn't schedule my time quite right for that" (Lydia-participant, 153-156). |
| | "I find it a little overwhelming that there are so many sites ... between the learning management systems for different schools and then you're continuing ed or professional development, you know, I actually have to write all of these things down because there's so many" (Alice-participant, 25-28). |
| Interpersonal | |
| Intimidated by others | "I would say I am still intimidated by people that I think are a different kind of educator than I am" (Sadie-participant, 353). |
| | "I'm like, Okay, I'm going to see what other people post. And nobody was really putting much out there. And I think I was maybe the third or fourth one. So, I think there was some anxiety around that" (Pamela-participant, 56-58). |
| | "Yeah, it's interesting, though, because it's like here are people who assumedly give lots of feedback and but they're having a hard time giving feedback to their peers. You know, it's like more the hierarchy" (Ruth-participant, 407-408). |
| | "The shutting down of the conversation often it happens when an instructor is always there the first one. [But] it's also when the |

| | |
|---|---|
| | instructor's not there ever that shuts it down" (Rachel-designer, 280-281). |
| Fear of looking less than others | "There seems to be an underlying assumption that people who are interested in online instruction are techno savvy and have arrived at a certain advanced state of familiarity" (Jasmine-participant, 41-43). |
| | "I'm not an expert here anymore. I've lost my expert status and now I'm in the not knowing place. And I look silly or I look incompetent or look, whatever. That's kind of an ego thing" (Sadie-participant, 521-523). |
| | "You can kind of not engage as much because you know people and you're kind of a little concerned about not always being revealing of yourself and how that's going to come back to bite you in tenure and promotion or other things" (Caleb-designer, 327-329). |
| Structural | |
| Technology challenges | "When I get to another link, it would, like it said this assignment is graded. I could get to that. But then to get to anything else like to discussion groups and stuff. I didn't know how to go from that page. So, I would just close that and go back to my original link. I think it was probably the homepage" (Cali-participant, 126-129). |
| | "I was trying to do it from an iPad Pro. And I wasn't able to connect to it" (Dahlia-participant, 251). |
| | "I tried that one, the video. I thought I pushed the button. But you know what, I think that might have been my system, because I did it at home, and I think it was my link or something it burped or something and so I lost that" (Annabelle-participant, 202-204). |
| | "I had somebody … who was traveling in week five of the class … she was going to be on a boat with really unreliable Internet access for a week" (Betty-designer, 185-188). |
| Physical challenges | "[there were] a lot of readings and takes me longer to read than most people because of my visual thing. And so, I spent a lot of time on those" (Lydia-participant, 164-165). |
| | "It was right on top of the surgery. I mean, that's the only thing. I would have been on top of everything right away if I would have been doing it, you know, and didn't have that" (Cadence-participant, 82-83). |

| | |
|---|---|
| | "I couldn't participate in the discussions which made me feel like a jerk. But there just wasn't, there wasn't time in the day, for it. I deal with a chronic illness. And when it flares, I can't feel my, I don't use my hands" (Terry-participant, 144-146). … "Even though I didn't get to participate I dragged a lot of meaning out of being able to see the ways that other people were interpreting what I was reading" (Terry-participant, 230-232). |
| Balancing multiple demands/ timing | "I'm traveling quite a bit to care for elderly parents... So, I think between Module three and four, there's always, excuse my expression, stuff going on where one of them is in the hospital. So, then it's catch up with my work here." (Elizabeth-participant, 178-180). |
| | "I was overlapping at one point. I was finishing my OER, Open Educational Resource, modules and starting yours, and beginning my summer classes ... I was less free to start then I realized" (Paul-participant, 103-105). |
| | And another faculty who was completing a certification course at the same time as this course commented, "Not only that, and then like a nut I'm teaching summer school. Oh boy. So, it's like, I don't know what I was thinking, I guess. And then after I get into it, it's like, Okay, I'm all over the place" (Taelyn-participant, 32-33). |
| | One participant talked about juggling participation with having a new baby. "I'm a new mom and I'm stuck in the house a lot right now… this allowed me to be productive" (Amy-participant, 29-30). |
| | "The first week was kind of difficult for me because I was [out of town] grading AP exams" (Jolene-participant, 16-17). |

terminal illness of a parent. Despite this, almost all participants found a way to sustain their engagement in the course and achieve a level of growth through their participation. Others opted to make sacrifices to optimize their own learning rather than be concerned about adhering to the designed course activities and outcomes.

Participants found the design and facilitation were key to affecting their motivations and barriers. Others also commented on the connection to participants in the course as a third strong factor to help overcome barriers. Designers also confirmed this.

116

However, it was not possible, given the measurement tools of this study to determine exactly to what extent each motivation or barrier affected the development of community. The interplay among motivations and barriers is too complex to parse out in the scope of this study. However, the study findings indicated course design and delivery is critical to helping most participants overcome their barriers and continue participation. Therefore, in the final section of this Chapter, I will discuss the overarching themes which arose from the data analysis and which culminate in identifying key elements needed to develop a successful online faculty development course.

## Overarching Themes

In this section I will synthesize all data explored in conjunction with the participant and designer interviews. In comparing the data from the two groups there are some clear similarities. For example, both discuss the importance of building opportunities for application and the value of the support facilitators and peers provide in the course. Both groups also stressed the importance of the facilitator building a safe space to help increase access and neutralize power dynamics that exist in the academic hierarchy. However, both groups also brought up unique elements from each of their perspectives. Participants felt strongly about the significance of validation in the course and the importance of feeling humanized in the experience, that their perspectives and experiences were valued. Designers focused on learning and program outcomes such as increasing program participation and completion. These include setting expectations early, modeling desired behaviors, and incorporating easily absorbed articles and

authentic activities. They also talked about what happens when outcomes are not achieved within the time period of the course and the need, therefore, for a more longitudinal approach to reach success.

By looking at the categories through this combined lens the defining characteristics of the model begin to emerge. Five themes were identified. 1) Participants need opportunities for deliberate practice that incorporate application, feedback, and reflection. 2) Participants seek to customize their experience to their unique backgrounds and needs. 3) Participants desire a learner-centered experience that elicits and values their contributions. 4) Community creates validation through a sense of shared practice and overcoming challenge. 5) Through engagement, community fosters perseverance to overcome barriers.

These themes can be summarized in three identifying characteristics of a successful humanized design: deliberate practice, customizability, and leaner-centered experience. The key outcomes that should stem from the course engagement are validation and perseverance. When combined, these elements create a reciprocal relationship at the core of the model (Figure 9).

**Humanizing Design**

The first of the two main groups of themes is that of humanizing design. This overarching topic became clear through the participant interviews as faculty stressed the need for course design to meet their specific needs and see them as unique individuals. The focus of the design needs to take the participant's needs, experience, background, and current circumstances into consideration by preparing material that is easily digestible and applicable, giving them flexibility in the design to reach them where they
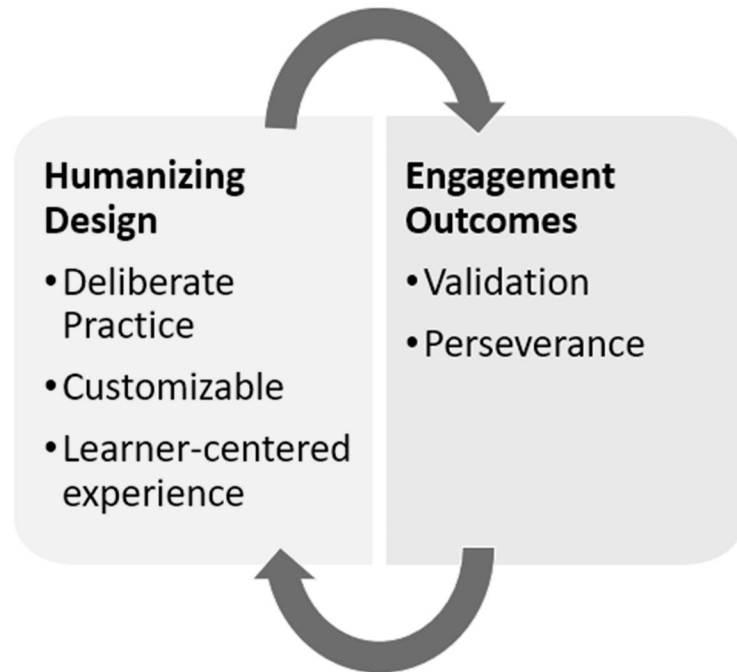
Figure 9. Key Elements of Design and Engagement

are as learners. Further, they should have the opportunity to practice application, receive feedback, and reflect on that experience. "I think the humanizing – speaks to the importance of meeting folks where they are at, and how important it is to provide these types of programs for all faculty" (Elizabeth-participant personal communication, August 27, 2019). The three topics within this category are: deliberate practice, customizability, and learner-centered experience.

**Courses should include deliberate practice.** The first theme that was strongly apparent from the designer interviews was the importance that the material covered be practical and applicable. Participants need opportunities for deliberate practice that incorporate application, feedback and reflection. Each of these three key elements of deliberate practice are explained further below.

***Materials should be practical and applicable.*** As one designer stated, reflecting from the faculty's perspective, the course should "focus just on what is relevant to you and don't go through material you're not interested in or isn't relevant" (Elise-designer, 115-122). Participants and designers agreed it is important the focus of any faculty development be on thinking about and practicing application during the learning. "That was nice, as a student, to be able to take an assignment and use it in real life" (Samantha-participant, 169). "I'm taking a class, but I'm also getting work done at the same time because I'm thinking about how this is going to affect [my] class" (Helen-participant, 175-178). This includes use of summary articles, examples, and authentic real world activities.

Designers reported finding it much more effective to use short articles summarizing key research rather than the original research articles. Faculty do not have time to absorb theory and figure out how to apply it. They want to hear the direct application suggestions from those with experience. "Post relevant articles and resources" (Laura-designer, 274-279). "Don't overwhelm them with theory. Always focus on the practical application and provide examples" (Melanie-designer, 708-713). Videos also should be short and to the point. "If I open up a video and I'm like, oh my god, it's an hour, that's way too long. You know, it's a few minutes that works really well and it just gets to the point" (Pamela-participant, 97-99).

The facilitator builds trust that they have curated appropriate materials for faculty that expedite their learning by getting directly to the point. For example, this can be done using case studies and application examples. "Use case studies to help faculty understand application of theory" (Wanda-designer, 123-125). Throughout the course be sure to

provide "examples, examples, examples, examples and practical application" (Bianca-designer, 148-149).

And finally, activities should be authentic. That means they need to be something faculty could potentially use in their classes. You need to let faculty practice what you are teaching. Wherever possible have all activities within the class be things that can be immediately implemented in teaching (e.g., building a syllabus, lesson plan, activity sheet). This advice included encouragement in discussion forums to "focus on application-based questions and activities" (Julia-designer, 159-161).

***Activities should include reflection.*** Another component participants found important for the processing of material was built-in opportunities for reflection. "I liked doing the postcard [reflection] assignment. That really helped me to process what I was thinking and where I was" (Cali-participant, 70-71). Some even added their own additional reflection components. "When I actually turned in the file, I just wrote a reflection, even though that wasn't part of it because I thought that that's, I mean that's important to be self-reflective in our teaching practices" (Ruth-participant, 152-154).

A subcomponent of reflection is that of perspective-taking, the ability to gain empathy for others through this lived experience. When faculty experience online faculty development they learn through the perspective of others including students and colleagues. Many found it very valuable to be placed in the situation of an online student with assignment deadlines and technology challenges. Participants found they gained empathy for the student perspective which helped them have a better understanding of what students struggle with. "Being a student, as well as a faculty member for me also helps me to just really reflect and to think as to, you know, what's the most effective

121

method" (Naomi-participant, 307-308). "It's a good lesson for me too. You know I know we're talking faculty development, but in our regular courses stuff happens to the students too, so you know accommodating that somehow" (Pamela-participant, 125-128). In engaging with a student who was struggling to keep up in a class, one faculty commented, "And so I thought, well, you know, that's interesting. I understand how that feels because I was experiencing it with your class" (Sadie-participant, 84-85). Some commented specifically about experiencing a teaching strategy/technique first hand and how it feels.

> Being a student in the class was very helpful because I actually got to experience what the information said. One of the things that really stood out to me was this notion of frequent quizzing as a tool for learning. And it seems counterintuitive to me that that would be the case. But as a student during it, I was like, no, yeah, that's really was, this is doing something (Dahlia-participant, 59-62).

> I would have had a little bit of anxiety about being that playful with my students. But yet you were that playful with us. So maybe that's a self-limiting thing. I really loved it ... that playfulness I found very engaging. And I have since borrowed some of this (Sadie-participant, 212-215).

*Activities should include feedback.* Others valued hearing the experiences and advice of their peers and the facilitator and seeing their own situation from that outside perspective. "I had the opportunity to see it from their perspective. And sometimes what they got out of it wasn't even a little bit what I got out of it" (Terry-participant, 231-232).

> I really liked reading the perspectives, one from instructors who have way more experience than I do in education. But two, there weren't a ton of science teachers. So, they saw things so differently than I did. I really liked reading how they interpreted things (Terry-participant, 157-160).

**Courses should be customizable.** The second theme is that of flexibility in the design of the program. Participants seek to customize their experience to their unique

backgrounds and needs. Each participant had a different experience within the course and found value in different components of the course. This emphasizes the variety of needs and perspectives faculty bring to a program. Therefore, the best design provides multiple ways for faculty to approach and complete the course. This theme breaks into three categories: choice, longitudinal learning, and providing support that reaches faculty where they are. These are discussed in detail in the following sections.

*Participants should have choice.* First, the category of choice leading to the sense of being in control of one's own learning was an important design element for participants. This was expressed in multiple ways including having multiple different media types (video, articles, etc.) to access the course content, as well as choice in methods to complete assignments (infographic, PowerPoint, Word, etc.), and multiple ways to accumulate points to move toward completion.

Some participants appreciated the balance of multiple types of resources. "For me, the blend of articles and then videos was very good" (Annabelle-participant, 295-296). Others had a strong preference for one over the other. "I liked that there were videos that were from different perspectives. It wasn't just sit down and read a chapter" (Samantha-participant, 90-91). "I liked that it was accessible for me, that it wasn't just straight reading, which is a challenge for me" (Dahlia-participant, 104-105). "I didn't get to do all the readings, but I did watch all the videos because I was trying to, you know, manage the time" (Naomi-participant, 66-67). And some preferred the articles because they were either trying to consume the readings in loud areas or during travel, or because they prefer having a hard copy. "I print everything ... I just would never ever go back and keep reading it on the screen. I have to print everything so I can savor it I guess and just,

you know, digest it" (Alice-participant, 86-89). They further stressed the importance the

resources be short and to the point. "I like the readings. They were short. It was

consumable" (Pamela-participant, 67-68).

Building choice into assignments and providing choices of assignments to

complete was also discussed. "I liked having options of submitting different things ... it

was more fun and more engaging, and I think that you have better buy-in. So, I really

liked having the options for assignments" (Miranda-participant, 75-78). Some enjoyed

the more creative assignments. "I found the postcard easier than the week one challenge

to write a summary. I'm not, I don't like writing. So, the postcard was more along my

taste as far as expressing my ideas" (Cali-participant, 75-76). And others would have

preferred all writing assignments. "I was one of the people who weren't comfortable

doing the postcard" (Helen-participant, 56-57).

*Learning should be longitudinal.* The second category identified how learning

for faculty differs from that of the traditional student. When faculty engage in learning it

is not contained to the limitations of the time and structure of the online faculty

development course. And it is not necessarily desirable or appropriate to think of

development as being part of a finite course. The incorporation of new technologies

allows for flexibility of options to break out of a specific place and time in which

development must exist. And this allows us to tap into the importance of "developing

those relationships that continue beyond the professional development" (Laura-designer,

325). This was particularly evident when designers were asked about what their ideal

online faculty development would look like. Many talked about the importance of

something that continues throughout a career in a process of continual improvement. This

included the ideas of moving outside the traditional course mode and building longer-term relationships. Given the structure of this research project, these recommendations were the hardest to implement into the course provided. But course participants were still asked about these elements and they were incorporated into the final model presented in Chapter 5.

Designers also stressed the importance of breaking the mold of workshops and courses and focusing on the development aspect of faculty development. "Don't call it a course. This limits and sets specific expectations of faculty for what they could get out of it" (Audrey-designer, 336-341). "Get out of the LMS [learning management system] into something else to get away from the 'course' idea" (Audrey-designer, 344-345). Use "an emergent situation where you are exposed to all the material at once and practice applying and understanding holistically throughout the duration of participation" (Elise-designer, 109-115). This takes a much broader approach to faculty development than has traditionally been looked at in most teaching centers. It moves away from the workshop or course model and toward models like faculty learning communities.

In conjunction with the idea of breaking the course mold is the idea of seeing development as a continuum and not a stand-alone program. "Research shows longer-term programs, such as yearlong, are more effective for faculty development" (Fara-designer, 320-325). "Longer programs allow for more building of community, getting to know peers and bringing them into the conversation, beyond just responding to a few peers" (Elise-designer, 55-57). This can mean not only longer-term in the sense of the duration of the program but also the duration of the activities. One designer suggested using "longer-term, less intense, activity peppered throughout the week with a regular

pattern" (Elise-designer, 429-431). For some institutions, longer-term included

implementing more creative models such as virtual learning communities and teaching

circles. And where possible, faculty should be included in these as early in their career as

possible. "Build professional learning communities for faculty to be put in right from the

start of their employment" (Maggie-designer, 151-154).

Finally, we must consider that faculty are also engaging in social construction of

knowledge through interactions with colleagues, friends and family outside of the course.

Therefore, the community of learning extends beyond the structure of the course. "I have

another colleague that already successfully does service learning. And so, we talked

about the reflection piece. And as she shared with me, like what she does with her

students" (Helen-participant, 218-220). "You know, that kind of stuff where we actually

had the conversation that you were planning on us having on the discussion board, we

actually had in person" (Stella-participant, 148-150). Designs need to be flexible enough

to accommodate and even encourage this expansion of the learning community.

*Support should reach faculty where they are.* Faculty reported varying levels of

pedagogical and technological experience and comfort. Some were completely new to the

field. "I didn't have as much experience to draw on to have that discussion" (Cali-

participant, 155-156). Some struggled with the terminology. "That mostly came into play

when the other classmates that are instructors were talking and using terminology, talking

very academic talk instead of layman ... I'd have to kind of pause and say, okay, what are

they saying here?" (Dahlia-participant, 237-240). "In the discussions, there were a few

contributions which I could not understand because they were highly technical"

(Jasmine-participant, 146-147). Others struggled with the technology. "I have not used

Canvas before, and I'm just learning Blackboard now, so that was a little bit of an issue with me" (Cali-participant, 114-116).

On the other hand, some participants felt the level was appropriate or even that some of the content was too easy. "I think it was the module two about sleep and exercise, I thought that was a little bit too easy in a sense" (Alice-participant, 242-244). And that the technology was easily navigable, "I didn't have any technical difficulties for sure" (Ben-participant, 162-163). "I didn't have any issues ... in terms of the tech, I'm pretty techie. No, it was fine" (Ruth-participant, 78-81).

Finally, some faculty expressed concerns that when the level of rigor was too low that it is harder to maintain interest. One participant felt the learners should be groups by experience level with the topic. She felt learning is best when "we're all basically on the same level or higher … I've been in environments where there may have been beginning clinicians and I didn't find myself challenged and I would sort of tune out" (Elizabeth-participant, 24-26). However, others appreciated the diversity of the knowledge levels of the participants. Each faculty needed a different and personalized level of support to meet their learning needs.

**Courses should provide a learner-centered experience.** The third theme of a learner-centered experience addresses the potential isolating factor of an online course. Online faculty development is often overly structured, isolating and even boring. Participants desire a learner-centered experience that elicits and values their contributions. This includes not only allowing participants to be themselves as defined by social presence, but letting them be a part of the process and assuring everyone has the same access and opportunities regardless of background or barriers. Within this theme,

there are five categories: using faculty as co-leaders, providing facilitator guidance, promoting peer support, increasing access, and neutralizing power dynamics. These are detailed below.

   ***Faculty should serve as co-leaders.*** This first category comes from the designer interviews and speaks to the importance of faculty serving as co-leaders. When faculty actively engage as leaders in the learning process this strengthens their understanding of the material. This can include faculty involvement in the course design process, leading discussions in the course, or providing peer feedback. Designers were adamant about the importance of including the participants in steering their own learning. "Consider the faculty participants collaborators, not learners because we collaborate together to create learning" (Melanie-designer, 33-34). "You can't learn from one person, you learn from everyone together" (Rachel-designer, 73-74). "There's a lot faculty can learn from each other and they listen to each other better than they listen to the facilitator" (Bianca-designer, 124-125). Within this category there were four sub-categories that emerged including the importance of building in ample peer interactions, encouraging mentoring among the participants, utilizing peer teaching, and cultivating a shared experience.

   *Provide opportunities for peer interaction.* To assure faculty are contributing to the co-construction of their communal knowledge, designers stressed the importance of building ample opportunities for learner-to-learner interaction. Further, they discussed the challenge in getting faculty to see the value of these interactions and to promote participation. They provided suggestions on how to encourage faculty to take advantage of these interactions. "Use open-ended discussion questions that stimulate conversation" (Emma-designer, 112). "Have them provide peer feedback on weekly artifacts" (Laura-

designer, 68-69). However, one designer cautioned "you can have death by discussion forum if you overdue the discussion requirements" (Jane-designer, 157-158).

*Encourage mentoring.* Whenever possible the designers felt it is helpful to arrange for mentoring opportunities for more experienced faculty to mentor their less experienced peers. It is "really nice to have long tenured instructors join in on the conversations because they tend to do a lot of the mentoring" (Aria-designer, 46-47). When possible, it was even suggested, rather than having basic and advanced courses, to have one cohort within which there are more and less experienced faculty working together. Have faculty "rotating in and out of overlapping cohorts so there are some experienced and some new members to facilitate mentorship and transition or modeling of the cultural norms of expectation" (Elise-designer, 86-90).

*Utilize peer teaching.* Expanding further on the learner-to-learner interactions was the recommendation to have faculty take a more active role in leading the course through peer teaching. "Encourage the faculty to teach each other, direct them to another faculty to answer the question instead of always giving them the answer" (Brody-designer, 207-209). It was felt this would both help reinforce their own learning and give additional opportunities to practice methods and strategies they were learning. "Have faculty do the presentations, present their work to share with their peers and discuss" (Wanda-designer, 160-165). "This empowers the faculty to feel literate in what they are trying to do and be empowered with their students" (Brody-designer, 220-222). One designer also stressed the importance of context. "If asking faculty to post their work, make sure they are providing context to help others provide useful feedback" (Jane-designer, 176-179).

*Cultivate a shared experience.* The final sub-category is the idea of shared experience. Participants discussed the importance of being heard and being able to share their perspectives, experiences, and stories. This helped ground the material for them and helped them envision its application in their context. "People were really using their own experiences to like kind of tell a story like how they reached that [conclusion]" (Ruth-participant, 131-132). "It was very relevant and there was really good discussion, for the most part, from the participants and sharing back their real experiences, and I think that was really helpful" (Pamela-participant, 32-33). "I want to see people that had experience and they did have, they had a lot to share" (Alice-participant, 323). "It's just done telling stories which is like we crave stories. We're so human" (Ruth-participant, 293-294).

They also discussed the importance of hearing other's perspectives on their learning. "I really liked the discussions that I was able to take part in. People just made some amazing comments and came up with ideas and strategies that I've probably already incorporated unconsciously" (Lydia-participant, 80-82). "I think hearing other people talk about the concepts helped me to understand the concepts myself. And so just kind of reinforcing what I had learned and thinking about things in a different way, that was really useful" (Amy-participant, 93-95).

This also extends beyond just shared stories. The designers discussed the key elements of a fully shared experience. "I think faculty development extends beyond just coming to a workshop and getting professional development, but also sharing is a part of faculty development as well" (Fara-designer, 60-62). Utilize a "teaching circle of 10 in your discipline, or can be multidisciplinary, for reflection and collaboration" (Elise-designer, 30-32). One institution found it helpful to utilize a program incorporating peer

130

review of teaching. "Teaching circles where you view each other's courses, either face-to-face or online and provide feedback as a group" can be very effective for learning and reflection (Jessica-designer, 11-12). Another found success when they created a "true community of learners and accountability and also just burden-sharing" (Aria-designer, 38-39). They stressed the value of burden-sharing particularly with faculty juggling multiple priorities.

***Course structure should promote peer support.*** Also, very close to the concept of co-leadership is the idea of peer support which stemmed from the participant interviews. Given the hierarchical challenges, many appreciated the collaborative environment within the course. This course "made me feel quite autonomous and in my learning, but also part of the collective" (Miranda-participant, 151-152). And they valued the peer feedback. "There were things that I already was doing. And then there were things that I needed to work on. And so, I can get highlighted for me the things that I needed to work on" (Helen-participant, 28-30).

> All the interaction with other instructors and feedback when we were doing peer reviews, that helped a lot. I didn't feel like, it was almost like I was talking to someone in person because we had so many, you know, feedbacks between instructors. So, I didn't feel like I was being isolated at all (Katlin-participant, 43-45).

Some participants even provided very specific examples of information sharing outside the scope of the course material.

> I remember there was one discussion, our group about, oh, it was turning on retakes. So, there was a question somebody post about Blackboard like allowing students to resubmit quizzes multiple times. And somebody didn't know that that was an option. And a lot of the people in our group chimed in to say, Oh, yeah, you just go in here you and select this, you check this mark and that will allow students to be able to submit multiple times. (Miranda-participant, 218-223).

*Facilitator guidance is critical.* The third category designers brought forth is that of the critical importance of the role of the facilitator in the delivery of the course. Designers discussed extensively the importance of the facilitator. Participant engagement is increased through active, skillful facilitation. "You have to be a strong leader in the course, it doesn't all happen on its own" (Melanie-designer, 671-673). "A skillful facilitator is key to helping peer-to-peer connections happen" (Valerie-designer, 237-239). And stress was placed on timing. "The first two weeks are critical to build motivation" (Emma-designer, 61-62). This leadership responsibility can be further broken into four sub-categories: setting expectations early, modeling desired behavior, promoting a safe space, and being supportive.

*Set expectations early.* First, the designers stressed the importance to set expectations for participation early in the course. This sets the standard for both your expected level and quality of participation and engagement. "Set a standard of being active at the beginning" (Emma-designer, 209-210). Further, they emphasized expectations should be clarified regarding how interaction should occur and what is acceptable or not within the environment. "Set expectations for participation and group norms for participation" (Elise-designer, 40-42). They suggested doing this by sending ample reminders, being very engaged in the discussion boards, and reaching out individually to early non-participators.

*Model desired behavior.* Designers found that participants would often mirror what they saw in development courses in their own design. They stressed the importance of not only teaching pedagogy but modeling that pedagogy through the facilitator's own behavior as well as the course design. "Faculty see what we are doing and want to do the

same in their class, so we want to set a good example" (Emma-designer, 203-204). "We need to model what we are teaching" (Caleb-designer, 411-412). Designers reported finding this level of behavior modeling even includes the level of engagement within the course. "Make sure you are modeling the depth of interaction that you want faculty to engage in within the discussion boards by planting questions throughout" (Valerie-designer, 227-229).

Further, they suggested transparency in this modeling. "Explain you are modeling best practices" (Betty-designer, 208-209). This ties in directly with the importance of setting expectations early through high engagement levels. They also stressed it can be helpful for the facilitator to share their own experience with implementing strategies. "It helps when I use my own teaching experience a lot as examples" (Bianca-designer, 127-129). This both models behavior you want faculty to perform and ties in with making activities and examples authentic.

*Build a safe space.* Designers emphasized the importance of providing a safe space for participants to share and be vulnerable. This is a critical component of learning and is reflected in the CoI model's social presence. "Make sure it is a collegial atmosphere where all participants feel equal and the facilitators are approachable allowing for participants to admit when they don't know something" (Wanda-designer, 56-59). Further, they identified this role as clearly on the shoulders of the facilitator to carry out. "Great leadership I think is really important to create a safe space" (Carlynn-designer, 187). This can be accomplished through encouragement and clarification of expectations for contributions promoting a growth mindset. "Being encouraging helps faculty feel they can create things and take a risk" (Cara-designer, 197). "Stress

133

discussion contributions are collaborative and not evaluated, it is OK to share failures"
(Carlynn-designer, 206-207).

*Provide support.* Finally, designers shared the importance of creating a
connection between the facilitator and faculty involving a supportive relationship with
the participants to help keep them engaged. Suggestions mostly involved reaching out
with encouraging messages at the right time. "Reach out to faculty who are not
participating and encourage them to come back. Provide suggestions for how to get
caught up with the rest of the cohort" (Fara-designer, 103-112). "Reminders right before
due dates are helpful to increase compliance and participation" (Aria-designer, 79-82).
"When they have a lot of things on their platter, they sometimes just need that little nudge
reminding them" (Fara-designer, 363-365).

Additionally, designers stress the importance that participants feel supported
within the environment. "The community of support is so critical. Without that, it is just a
program and there is no actual change" (Melanie-designer, 683-686). This brings in the
elements of not only what the facilitator is doing to provide support but what they are
doing to cultivate a culture of support amongst all the participants. Designers also saw
this as related to the sub-category of building a safe space. They emphasized the
importance of "helping participants feel safe and supported" (Cara-designer, 196).

***Centers should build courses that increase access.*** Participants talked about the
advantages and appeal of the online asynchronous format allowing them to participate
when they would not otherwise have been able to. One participant talked about juggling
participation with having a new baby. "I'm a new mom and I'm stuck in the house a lot

right now… this allowed me to be productive" (Amy-participant, 29-30). She further

talked about the flexibility of doing smaller chunks of work at a time.

> It was bits and pieces. It was when he was taking a nap or you know 10
> minutes here and there … Yeah, I felt like there was flexibility and time
> for me to be able to do things at my own pace (Amy-participant, 144-146).

> Participants also talked about the advantage online provides in flexibility of

scheduling and location. "I think it's really great because here I am, and I don't have to

go anyplace, and super convenient" (Darla-participant, 25-26).

> I really enjoyed it because you don't have to be in a specific place at a
> specific time. It allows me, if I can't sleep, or if I just have free time, I can
> be in the airport, on the beach, whatever, and I can still get the assignment
> accomplished (Taelyn-participant, 9-11).

> Some participants talked specifically about the challenge of face-to-face

attendance. "I really liked the fact that it was online because I was actually able to

participate" (Cadence-participant, 30-31).

> We have a whole series of what works [at home institution]. It's called
> what works in teaching. And I always get excited, but I, you know,
> oftentimes it conflicts with my schedule and I can't go to these live events.
> So, this was the perfect venue (Dahlia-participant, 570-573).

> Others specifically talked about being isolated or denied access to resources. "So,

you didn't know if what you're doing was good or bad. You had nobody to compare

notes with, nobody to ask questions of" (Sadie-participant, 370-371). And how, when

given access it provided opportunities for stimulation of new ideas and motivation. To

"have more access to more information kind of reinforced and re-motivated me" (Darla-

participant, 201).

> Designers also reinforced the ability online programs provide to increase access.

The "ability to offer different modalities for attending F2F, Web conferencing in,

135

watching video after the fact helps reach larger audiences" (Fara-designer, 330-336). In

addition, online offerings "remove challenges of weather-related cancellations" (Cara-

designer, 400-401) and "eliminate the need to find space in various locations convenient

for faculty" (Dorothy-designer, 295-297). Several teaching centers shared that they

support multiple campuses making face-to-face development offerings challenging. With

online, they can provide "offerings across multiple campuses" (Caleb-designer, 95). For

some institutions with a high number of part-time faculty teaching online, those faculty

may be physically located around the world. Using online asynchronous delivery

methods they can "address faculty in multiple time zones" (Audrey-designer, 149). And

finally, they commented on the value that the asynchronous nature allows participants to

"refer back to materials" (Jessica-designer, 132).

  ***Facilitators should work to neutralize power dynamics.*** Participants talked about

the importance of addressing and neutralizing power dynamics that come into play in the

academic hierarchy. They shared some of the struggles they have encountered.

> Yeah, it's interesting, though, because it's like here are people who
> assumedly give lots of feedback and but they're having a hard time giving
> feedback to their peers. You know, it's like more the hierarchy versus here
> [online] you know people that are on the same plane (Ruth-participant,
> 407-409).

> This kind of validation and information I wasn't getting until somebody
> said, oh, you know, your evaluations aren't good. We have to have you
> change what you're doing, which didn't really feel like support. It just felt
> like, yeah, what do you expect from me? I kind of got thrown into the pool
> here and I had no support (Dahlia-participant, 564-567).

  Further many spoke about the part-time versus full-time faculty inequities at their

home institutions. "We don't think we're seeing that we're on the same playing field, you

know. We're like, we're there, but we're not really there" (Sadie-participant, 368-369).

"Most of the time we did not have access to any resources from the teaching center. The philosophy there was their resources were for tenure track or full-time faculty only" (Sadie-participant, 249-250). Others pointed out how their degree and institution status isolated them. "It's always interesting, especially when you go to conferences, being that I'm not a doctor yet, I'm young for what I do, and I work at a community college, I am already on the outside" (Terry-participant, 187-189). And others found gender differences to be isolating.

> A couple of the male class members disincentivized me from wanting to interact, which is not untypical of me with guys. I guess the power dynamics were not neutralized enough for me, but I have low tolerance in the gender and communication department (Lydia-participant personal communication, August 24, 2019).

**Engagement Outcomes**

Once the design has been successfully built to humanize the experience, we turn to look at delivery of the course and the outcomes of those engagements that happen through participation in the course community. Here I will look at two themes related to engagement outcomes: validation and perseverance.

**Courses should provide validation.** One of the most frequent comments from participants focused on how validating they felt the experience was. Community creates validation through a sense of shared practice and overcoming challenge. "I think the validation piece is also critically important! Hearing the voices and listening to faculty concerns" (Elizabeth-participant personal communication, August 27, 2019). Validation is tied to the course's purpose. According to Perlman (1998) purpose has three components, to confirm, challenge, and change the faculty's practice. He believes, in

designing a course your goal is to target participants' emotions, beliefs and behavior in these three areas. Providing validation addresses the first component, confirmation for participants in all three areas. There is also an element of validation through overcoming challenge to final component of purpose. For participants, validation fell into three categories, 1) validation of the problems one is experiencing themselves, 2) validation of the teaching strategies they employed but did not have the research to support, and 3) validation through the experience of taking on a challenge and mastering it. Each of these categories is detailed below.

*Generate validation of teaching struggles.* Participants found discussions with other faculty outside their discipline very helpful in validating their struggles, challenges, and fears. "The good thing about the groups was that it kind of made me realize, again, that every faculty member in every field has some of the same issues" (Amy-participant, 91-93). "And I think the biggest thing for me as a new faculty was the comfort in knowing that I'm not alone with all the challenges that I was facing" (Naomi-participant, 61-65). "For me, it was just that reaffirmation that it's okay to be in that mode of learning and trying new things and working on it" (Helen-participant, 226-228).

*Generate validation of teaching strategies.* Participants also commented on the validating effect that can come from sharing your practices. They valued being able to confirm some of what they were doing intuitively is evidence-based. The course participation "reinforced things that I already suspected like doing less traditional lecturing and more interactive stuff. Even though the more senior people in my department aren't really doing that. So, I think it was mostly a confidence builder" (Amy-participant, 66-69). "The fact that some of the things that were ... ways that I was already

teaching intuitively, and that that was validated, that was really, really good for me" (Cali-participant, 257-259). "I knew that I was doing things, but I didn't know that there was a name for it" (Dahlia-participant, 65-66). "It was reaffirming that the things that I'm doing are evidence-based because that's important to me" (Helen-participant, 27-28). "I guess I'm taking away that I'm on the right track with this" (Darla-participant, 199).

>*Generate validation through overcoming challenge.* The last validating category participants mentioned was that of rising to and overcoming challenges within the course. "We need to be uncomfortable to grow" (Cadence-participant, 79). "Going outside of your comfort zone that was helpful" (Alice-participant, 114-115).

> This idea of meeting the challenge was meaningful to me. So, meeting the challenge of using new technology, of thinking about things from a different perspective, you know, that kind of thing, just meeting that challenge. It was a self-imposed challenge. So, meeting that challenge was meaningful to me (Stella-participant, 228-231).

> Some participants commented specifically about personal areas of discomfort such as posting a video or working on remembering.

> The initial introduction video, I'm sure everybody is just like ugh. Like you've got to post a video. Not very flattering. But you know, I just got over that ... And so, it was a challenge like I wanted to rise to the challenge. Like I'm going to get this done (Dahlia-participant, 452-456).

> "I was very proud of myself because I would take those tests and say, you know I can do this" (Stella-participant, 63-65). Others focused on technology challenges. "I had to figure out how to do the video at the very beginning of myself. It took a little bit. But I was happy to learn how to do that" (Darla-participant, 89-90).

>**Course relationships should generate perseverance.** The second outcome theme that was evident in discussions with participants was that of perseverance.

Through engagement, community fosters perseverance to overcome barriers. Many spoke of commitments that helped them persevere in the course. These include commitments they made to themselves, and obligations they felt to the facilitator or to their peers in the course. Some also spoke in general about setbacks and some of the mental challenges that existed to overcoming them. Within this theme, there were three categories: commitment to self, commitment to peers, commitment to the facilitator.

   ***Generate perseverance through commitment to self.*** There was a spectrum of responses regarding the level of commitment participants felt to the course and how this can be a challenge particularly in faculty development. Some participants spoke about personal commitment and what it meant to them. "I found it motivating thinking, oh I've started this, I've committed to it. I've got to continue it" (Miranda-participant, 181-182). "If I was interested enough to sign up in the first place, then I ought to be interested enough to see it out. And I'm surprised at how many didn't. I was very surprised" (Jasmine-participant, 194-196). "I made a commitment to it. And I needed to follow through. And if I don't do it, then I'm not going to learn what it is I think I need to learn" (Jolene-participant, 175-176).

   Others talked about the struggle to feel engaged with other demands interfering and the need to make prioritization choices. "I had limited time. And so, and I think that was my own sort of ambiguity about being in the course" (Cali-participant, 103-104).

> I kind of trickled into. Then I felt like I was late to arrive. But if I was more on top of the dialogue, I might have been [more engaged]. Especially if I was much more targeted in the people I commented to (Paul-participant, 131-133).

The fact that the course was not for credit and they had not paid to participate also weighed into the level of commitment. "Yes, it's different when it's not a for-credit class. I mean, what's gonna fall off first is probably that, unfortunately" (Pamela-participant, 280-281).

> I think if it were, if I were a paying student, if that makes sense, then I would have been more deeply [engaged]. I don't know if I can explain this. I mean, I was into it. I really enjoyed it. But it was a little more superficial that if I were a student (Jolene-participant, 23-25).

One participant found the guilt over not being engaged made it hard to re-engage. "What I found is, once I had had significant space of not being able to be engaged, I felt so bad about it I couldn't get re-engaged" (Sadie-participant, 67-68).

*Gamification.* An important sub-component to that of commitment of self that came forth was that of the gamification elements of the course. "I like more fun things. It doesn't have to be so dry. Like here's some fun things ... I don't feel like I'm doing work because it's actually interesting" (Ruth-participant, 257-259). But more than just liking them, participants reported they encouraged them to continue in the course and to challenge themselves to try harder. There were two particular elements within the course that most comments centered around. The first was that of the accumulation of points in which you could move up levels within the course. The second was that of the quizzes which you could retake multiple times to increase your score.

"I was really excited each week to move up… And I don't know, it just made me feel like I was progressing. And I really liked that part of it" (Amy-participant, 29-31).

> I am also a little bit extrinsically motivated too. And so, you know, even from right at the beginning you said these are the different levels. And if you turn in so many assignments, you're going to [move up]. And so just

something very simple like that was, I found, motivating (Miranda-participant, 179-182).

Some were particularly motivated by the highest level, most valuable player that could be reached by completing all assignments in the course. "The most valuable player thing, that was brilliant. You know, this whole thing about the points, you know you can earn all these points, and this is the highest. That was, you know, motivating in some way" (Stella-participant, 198-200).

"I really liked that quiz thing where you could like keep doing it until you got them all right. That was fun" (Annabelle-participant, 114-115). "The quizzes, I really like that. And you know, when I messed up, I found myself continuing to want to go like, you know, until I got 100% ... it was just like I really want to know this" (Elizabeth-participant, 55-58).

> I think I did well on the first quiz. And when you have a perfect average you want to keep it right? And there were only a few of them as well. And partly I did want to understand the content reasonably well. Also, there's a certain component of perfectionism. If I get a 90% on something, if I have a chance, I'll go for 100%. I get a 10% I may not bother. I may say, well, this is something I'm not interested in or not good at may walk away. So, there may have been some weird benefit to having quizzes, where I could do pretty well, but not perfect (Bryan-participant, 230-235).

***Generate perseverance through commitment to peers.*** Some participants found it helpful to know others in the course were expecting them to be there and interact. They used terms such as social contract and social proofing to identify these relationships.

> Occasionally if I knew there was something that group members were supposed to be reviewing I often did it late. But I would have felt bad not doing it all. So, there were some social engagement there or social contract that I felt required to complete. Yeah, in fact, there have been several online courses that I've taken in the past that have not had this the social engagement or the deadlines. And I have, it's easier to walk away from them (Bryan-participant, 256-260).

142

It was nice to also have a sense of social proofing like this. Look at what others are doing. And now they're working real hard. I ought to work real hard too. You know, so the pure comparison I think is valuable (Paul-participant, 47-49).

Others struggled with what they felt to be a lack of commitment of others in the course and poor participation in their small group discussions. "I gave a ton of feedback. I didn't get a lot of feedback in response." (Ruth-participant, 128-129). "I think with the people, it was kind of challenging getting some people to participate. And it really wasn't as much discussion as I would have liked" (Ben-participant, 147-149).

**_Generate perseverance through commitment to facilitator._** Participants noted facilitator encouragement can also be a powerful intervention to help with perseverance in the course. "Your encouragement and that you were very welcoming, and I felt like I didn't have to make excuses for myself, that you just trusted that everybody's doing the best that they can, was really powerful" (Dahlia-participant, 517-518).

Sometime around two or three weeks we started, our dog was getting sick and things were just feeling really busy ... you wrote a message at some point that kind of said like you're halfway done or you've made progress and just those simple messages that even though I was busy and things were tough that I was moving forward on this. I think that was motivating" (Amy-participant, 76-80).

Now you did try to do something that I think in many cases would have been useful, which is you reached out to me by email. That extra touch, if I hadn't already been so down the dark hole, I think probably would have been useful (Sadie-participant, 92-95).

And participants also discussed seeing the facilitator as an information resource as well, further encouraging them to continue on in the course. "You are just one fountain of

ideas. And you know I just wanted to just keep picking your brain" (Lydia-participant, 109-110). Designers confirmed this.

> What also motivates them to complete it, they start to get to know me as the facilitator and they and they get to know their colleagues and they get to know that the facilitators. And they feel like they don't want to disappoint us, which I always find is interesting. They want to make sure that, you know why do they care? But they do. That they want to, because I become one of their colleagues (Melanie-designer, 244-247).

## Bias Check

An important component of reviewing the data is to look for any possible bias effects based on participant groups. Although participant numbers were not large enough to run confirmatory statistics between different groups, I did do a bias check to determine if the groups seemed to be responding distinctly differently based on any criteria such as gender, geography, rank, discipline, or race. No distinguishing difference was found. The largest differentiating factors were years of teaching experience and the amount of experience with online learning. Those with more experience tended to have greater overall favorable comments than those with less experience. Again, this reinforces the importance of having ample support for new learners.

## Chapter 4 Summary

This mixed-methods study explored how designers and participants experienced online faculty development. Through personal interviews, pre-course and post-course surveys, and course discussions, the two study participant groups identified different

elements and perspectives on the importance of a humanized curriculum considering the experience, background, and needs each individual brings to an online faculty development course. Overall the data collected in this study confirmed that it is possible to build community within an online faculty development program. This is evidenced through the survey data collected and the coding of the online discussions, both of which demonstrated the existence of the elements of the CoI model. Further evidence of the elements of the CoP model, meaning, identity, belonging, and practice was found in the course surveys and in the post-course interviews. But beyond confirming the existence of community as measured by this model, participants and designers identified several additional topics they felt were key to the success of the social construction of knowledge in online faculty development. These are broken into two groups which include: humanizing design elements and engagement outcomes. Within the humanizing design, the characteristics are deliberate practice, customizability, and learner centered experience. Within engagement outcomes, the elements are validation and perseverance. In Chapter 5, I will compare these themes to the current research and to my original conceptual model for the study. I will also discuss the implications of this study for best practices and future research in the field.

## CHAPTER 5: DISCUSSION

### Introduction

This mixed-methods study looked at the implementation of online faculty development and the ability to develop socially constructed knowledge through the interactions and community that occur within those programs. This study involved developing and offering a four-week fully online asynchronous faculty development course open to faculty around the United States. The course topic was the application of cognitive psychology to teaching practice and was titled *The Science of How Learning Works*. Data were collected in five phases: 1) an initial interview of designers around the United States to determine current best practices; 2) a pre-course survey of participants; 3) course discussion board postings; 4) a post-course survey of participants; and 5) post-course interviews of participants. The study looked at the social construction of knowledge through the lens of the frameworks of the Community of Inquiry (CoI) and the Community of Practice (CoP) (Garrison et al., 2000; Wenger, 1998).

In this chapter, I will review the study results using each of the three study research questions as a lens. Then I will discuss the overall ramifications of those findings, how they relate back to the existing literature, and what this means for the field.

## Interpretation of the Findings

In Chapter 4 I outlined the results that were found in the data collected, organized by data type and stage of collection. Here I will review those findings together from the lens of each research question and decipher how well they do or do not triangulate. This section aligns the three research questions that guided the study with a summary of the findings and conclusions.

### RQ1. Enhancing Community through Design

The first question this research study addressed is: In what ways do design and delivery strategies in online asynchronous faculty development programs enhance the building of community through meaning, identity, belonging, and practice?

This guiding question focuses on the four components of the CoP framework: meaning, identity, belonging, and practice (Wenger, 1998). The first component is meaning or the process of building learning through shared experience in the community. The key element of this component is a shared experience. The component of identity exists when the community has a connection formed through shared interests. The third component of belonging requires members to work together in shared activities learning from each other. The key to this component is that of the engagement element in the shared activities. The final component of practice refers to explicitly shared work in which people with common interests can "sustain mutual engagement in action" (p.5) and the focus is on the work itself.

The designer and participant interviews gave two different perspectives on what is most successful and effective in course design and delivery. Looking at those areas where there was agreement was particularly helpful in identifying the most important components of design and delivery. The components of the design that most contributed to meaning-making were the points in which there were learner-to-learner interactions and learner-to-facilitator interaction. The designers stressed the importance of the facilitator's role in this relationship, not only for their own interactions with participants but in how they modeled behavior by setting expectations early, asking appropriate probing questions and building a safe and supportive environment.

**Meaning.** Designers felt the role of the facilitator was very important to the cohesion of the community. The facilitator was a particularly critical role in guiding discussions, encouraging participation, and building an environment of safety. Participants also commented on the importance of the facilitator's role. But they stressed also the value they saw in these interactions which they found validated their own experiences and helped them persevere in the course.

Another way in which participants and designers agreed faculty gain a greater sense of meaning is through the student experience in the course. Participants commented on how the course affected their teaching through the experience of being a student. They gained empathy for their students through being in their shoes for a period which resulted in changes in their teaching practice which were more accommodating.

**Identity.** Identity can be trickier to address through design. When faculty are put in a position of learner where they are not the expert it challenges part of their identity leaving them vulnerable (Glass, 2017). An important way to combat that is by giving

participants opportunities to share their knowledge and experience. The designers interviewed talked about the importance of incorporating peer teaching in the process. This can lend faculty to feel their voice is valued. It also provides opportunities for participants at multiple skill and knowledge levels to be engaged.

Another strategy is that of building an environment in which it is ok and encouraged to make mistakes. Participants valued those opportunities in the course where they had to step outside their comfort zone just slightly to meet a challenge. They found that meeting those small challenges bolstered their confidence and helped expand their identity as a teacher.

**Belonging.** To build belonging, designers stressed the value of points of contact where participants not only interacted and shared past experience but also worked together constructively. Due to scheduling and personalization needs, designers unanimously agreed group projects were very unsuccessful in online faculty development courses. Instead, they had found success by providing opportunities for participants to engage in peer feedback. Some designers had also had great success with incorporating case studies where participants had to work together in small groups to come to a consensus on an outcome prediction. Based on this advice, both of these methods were implemented in the course in this study. In this course, the participants found the peer feedback more helpful than the consensus-building process. Part of this might have been in the implementation. Participants recommended further clarification on how to gain consensus might have made that process more effective.

It is also important that the course design, as well as the facilitation, neutralize isolating power dynamics within the course. Many participants reported experiences in

their careers that made them feel isolated or unable to share their voice. Even within this course, there were some behaviors that marginalized participants. For example, some participants felt intimidated by the level of knowledge of others in the class. Others by the degree status, years of experience, or appointment level. Some in the class also felt the gender of participants played into their comfort in contributing. And finally, some were intimidated or made uncomfortable by the technology and the idea in general of online communication versus face-to-face. It is critical for designers and facilitators to be aware of all these power dynamics that could potentially come into play and work to overcome or address them by building as welcoming and safe a space as possible.

**Practice.** Lastly, I look at the component of practice. Faculty time is very limited and online faculty development is often something they are engaged in on top of other duties. Therefore, designers strongly recommended all shared activities in an online faculty development course be authentic and application-based. Each week participants discussed practical applications of the material and had activities in which they reflected on application. But this was only part of the reflection and application practice. Many were discussing the material with peers and students outside of the course. Therefore, the element of community that was built did not so much involve sustained mutual engagement within the course as it did outside of the course in the communities of each participant's department and institution.

This course, built based on current best practices, was effective in developing these four elements of community. However, clearly more could be done to enhance these elements. For example, although the engagement within the course was effective, faculty participants also reported engagement on the course topics outside of the course

that played greatly into their learning. An attempt should be made to make this process more transparent and even encouraged or reflected upon within the course.

The importance of the use of multiple types of materials also cannot be overstressed. Most participants indicated a preference for either articles or videos. Therefore, having both options to access material provided great benefits. The same was found wherever choice could be incorporated in which assignments participants could choose to complete and how they could choose to complete them.

Faculty need to be able to learn together, to build stories, build a shared vision, and to improve together over time. We as designers need to find ways to provide faculty accessible and flexible structures within which to do this. We need to curate resources that are easily accessible in various ways, and then get out of the way and let faculty grow on their own path, not one we try to control for them. That said, we need to set high expectations and set challenges for them in the appropriate Zone of Proximal Development so they will be motivating and validating without becoming barriers. We must respect participants where they are in the learning process and help move them along the continuum through interaction with peers, material, and the facilitator.

And finally, you must balance flexibility with enough context and structure to make participants feel comfortable. Some people handle ambiguity better than others. For example, the case studies in this course were written to not have a right or wrong answer. Four different plausible outcomes were provided. Participants were placed in small groups and instructed to come to a consensus which response their group felt was most plausible. They were told there was no right or wrong answer. Some participants liked the flexibility, challenge and opportunity to apply their own experience in light of the new

information from the readings. However, others struggled with the ambiguity and suggested clearer guidance be provided on what constituted a consensus. Others asked for the facilitator to provide a correct answer after completion of the exercise. Thus, providing flexibility must also include providing a skeleton structure for faculty learners needing more concrete guidance.

### RQ2. Effectiveness of Discussion Forums

The second research question addressed is: Under what circumstances are online asynchronous discussion forums effective in building community as measured by the existing frameworks of Community of Practice and Community of Inquiry?

First, I will discuss designer feedback regarding the use of discussions. Designers stressed the importance that all activities within a course, including the discussion boards, need to be tied to application, not theory and that the faculty need to be co-leaders in their learning. They felt the most successful discussion boards are those where faculty are leading the discussion and the discussion is based around the application of the material. Based on this advice, the course incorporated three case-based discussions in which faculty worked together to predict an outcome to the case and were also directed to reflect on how this might work in their discipline. In addition, in the final week, discussion faculty shared their learning plans for implementing the course material and provided each other peer feedback

Overall participants liked the discussions, although they found them less helpful than the weekly reflection and application activities. They did agree that it was helpful to see examples presented from those both in and outside their disciplines and that it helped

stimulate ideas for their own application of the material. They commented that the peer feedback at the end of the course was slightly more helpful than the weekly case studies because they were getting specific individualized feedback from those who were seeing things from an outside perspective.

In analyzing the discussions, the data from the surveys can also be helpful. The components of the CoP and CoI were measured through questions asked in the pre-course and post-course surveys. First, I will review the results of the CoP questions which were presented in Chapter 4. Participants responding to these surveys indicated they felt they had gained a sense of mastery of the course content through their participation thus indicating they had a strong sense of practice. They also indicated agree or strongly agree in most categories related to identity and meaning, rating their sense of meaning the highest category. In the category of belonging they rated between agree and strongly agree but with the least level of confidence regarding the effects, the interactions within the course had on their sense of belonging. This was particularly evident in the areas of helping build relationships and network, developing a sense of belonging, and having an influence on daily work. This was confirmed in the interviews in which participants, while finding value in the course discussions, did not necessarily gain a sense of connectedness to the other participants in the course. Rather they felt it most helped their sense of connectedness to their field in general and to their peers and students external to the course.

In response to the CoI survey elements, the participants strongly agreed that the elements of teaching presence, social presence, and cognitive presence were all highly present in the course. However, survey responses indicated they felt the facilitator could

have done more in the discussions to help encourage participants to explore new concepts, reinforce the development of a sense of community, and focus the discussion on relevant issues to foster learning. While this did not specifically surface in the interviews, many participants did state they found the personal reflections more helpful than the course discussions. Many struggled with what they felt was a lack of participation in the discussions, a challenge designers also commented on as a common struggle in online faculty development. Participants also acknowledged they struggle with this in their own credit-based courses as well in which students often need a great deal of encouragement to participate. However, that is not to say participants did not value the interaction points. They often acknowledged the importance of this and the appreciation they had in hearing the perspective of others. But they felt the opportunities they had to practice applying the material and reflecting on that application held more value for them.

In addition to looking at the survey responses and interview data to explore this research question we also need to consider what actually happened in the course. In coding the discussions using the CoI coding categories they were found to contain the components of social presence and cognitive presence. Therefore, this supports the survey and interview data showing it is possible to develop a CoI in online faculty development through the interactions in the discussion boards. Based on the survey responses participants also felt they were able to build the elements of CoP: meaning, identity, belonging, and practice. However, it is not possible to determine if the discussions alone were responsible for the growth in these elements, particularly since many participants talked about discussions and other interactions they had outside of the

course that they felt contributed to their growth in these areas as well. As one participant put it, "Social learning isn't just about the artificial groups you force them to have in classes. It's much broader than that" (Bryan-participant, 189-190).

**RQ3. Motivations and Barriers**

The third research question this study addressed was: How do faculty motivations and barriers affect the formation of community in online asynchronous faculty development programs?

Both the designers and the participants were asked about motivations and barriers to engagement and completion of online faculty development. In Chapter 4 I reviewed these motivations and barriers identified and categorized them based on the frameworks identified in Chapter 2. These results found that when faculty have their basic needs of competence, relatedness, and autonomy supported, they will be more successful in their participation in online faculty development.

Further, these elements can be mapped to the motivation categories identified in Chapter 4 (Table 13). Within the overall category of competence, the first sub-category is "Remedy dissatisfaction with/curiosity about teaching strategies." This aligns with identity which ties to one's sense of self as a teacher. It also ties to practice because it directly affects ability to perform the job as teacher. The second sub-category is "Meet a specific need for information" This aligns with meaning as it is tied to one's understanding of teaching. The third sub-category is "Maintain skills previously gained in faculty development." This also ties to meaning and practice as it both affects a participant's understanding and ability to perform in a teaching role.

Table 13

*Alignment of Community of Practice to Motivations*

|  | Meaning | Identity | Belonging | Practice |
|---|---|---|---|---|
| Competence |  |  |  |  |
| Remedy dissatisfaction with/curiosity about teaching strategies |  | X |  | X |
| Meet a specific need for information | X |  |  |  |
| Maintain skills previously gained in faculty development | X |  |  | X |
|  |  |  |  |  |
| Relatedness (Social integration) |  |  |  |  |
| Gain opportunities for interpersonal connections with colleagues |  |  | X |  |
| Improve student experience |  | X | X | X |
| Meet a need or desire of department/ leadership |  | X | X |  |
|  |  |  |  |  |
| Autonomy (Sense of self) |  |  |  |  |
| Remedy low self-confidence with respect to teaching |  | X |  |  |
| Gain personal satisfaction |  | X |  |  |
| Address a desire for greater autonomy (E.g., more control regarding what happens in the learning environment) |  | X | X | X |

The second category is relatedness or that concept of social integration. The first sub-category is "Gain opportunities for interpersonal connections with colleagues." This ties to one's sense of belonging in a community as it enhances those connections to others. The second sub-category is "Improve student experience." This aligns with the concepts of identity, belonging and practice. Identity is enhanced because faculty associate their teaching with their relationship with students. Belonging is enhanced because it improves relationships with students thus increasing the sense of belonging to the community. And finally, practice is enhanced because it directly affects their ability to perform in the teaching role. The third sub-category of "Meet a need or desire of development/leadership aligns with the concept of belonging. It involves pleasing other members of the community to gain acceptance. It could also be seen as tied to the concept of identity as one might see themselves as being a faculty or having more position for having met a requirement of their leadership.

The last category is that of autonomy or a sense of self. All three of the sub-categories in this category tie strongly to a sense of identity. "Remedy low self-confidence with respect to teaching" aligns with identity because of its direct improvement on how one sees themselves in respect to their shared identity as a teacher. The second sub-category "Gain personal satisfaction" aligns to identity as it affects one's pride in their identity as a teacher. And finally, "Address a desire for greater autonomy" aligns with identity through its effect on the individual's need to feel in control of their environment. This last sub-category also aligns with belonging and practice as it affects one's standing in the community and their ability to perform in their role as a teacher.

However, it can be seen from the participant interview data this is a much more complex issue. While motivations and barriers exist, the extent to which they affect participation and thus the formation of community can vary greatly between individuals and circumstances. The existence of motivations that outweigh barriers further convolutes the situation. Many participants discussed the substantial barriers they encountered during the course. However, because they were motivated to complete, they continued making minor adjustments to compensate. Some participants opted to skip readings or assignments to keep up. Others requested extended deadlines to assure they successfully juggled multiple challenges along with the course. On the other side, some participants talked about a low level of commitment and motivation due to the nature of the course not being for credit and not having a cost associated with it. Therefore, they saw it as a lower priority which resulted in a lower level of engagement.

Participants identified design strategies they felt helped mediate some of the effects of barriers. Faculty and designers agreed that courses with a humanizing and flexible design and sufficient supports from the facilitator and their peers can help faculty be successful. Further, the evidence here shows, even those faculty unable to complete all the components of the course, still gained significantly from their participation. This would suggest barriers to participation might not have as severe an effect as assumed when the measurement is based on the level of participation and submissions rather than on application outcomes.

**Positioning in Relation to Previous Research**

Shulman (1987) identified four kinds of knowledge that a teacher should possess, 1) content knowledge, that of the subject matter itself; 2) curricular knowledge, the understanding of how you apply students' prior knowledge to the curriculum you are teaching; 3) pedagogical content knowledge, the ability to teach in one content area, which does not necessarily transfer to another content area; and 4) general pedagogical knowledge, understanding of general concepts about teaching and learning that apply across disciplines. According to Shulman, to be considered experts, teachers need to have mastered general pedagogical knowledge and pedagogical content knowledge. In this study, I focused on how that expertise is acquired in online faculty development programs.

Social constructivism theorizes that learning occurs through active participation in a group and involves a collaborative process creating individual and shared meaning. According to Dewey (1938), learning occurs through experience, which he sees as the key to the transmission of knowledge. For Dewey, learning is a collaborative reconstruction of one's experiences (Garrison et al., 2000, p. 92). The theories of CoP and CoI build upon this concept.

The CoP framework was developed by Lave and Wenger (1991) and looked at learning through participation, particularly in the apprenticeship model. It was further extended by Wenger (1998) who applied it to other domains such as education. This framework challenged the norms of teaching in which teachers speak and students listen

passively. Instead, this theory positioned learning as part of a wider practice in which social and historical components interact to produce the activity within a community (O'Donnell & Tobbell, 2007). In Wenger's theory, community is defined as the group formed through collective work experience. There are four components to the CoP model: belonging, practice, identity, and meaning.

Looking specifically at the social construction of knowledge in online environments, Garrison, Anderson, and Archer (2000; 2001; Garrison & Arbaugh, 2007) applied these concepts to build a formal framework, which they called the Community of Inquiry (CoI). By their definition, a CoI is made up of a "group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding" (Community of Inquiry Network website, n.d.). This framework builds upon constructivist ideas theorizing that learning occurs through a process of creating an experience. It includes three interdependent elements, or presences: social presence, cognitive presence, and teaching presence.

The findings of this study confirmed the critical elements of the social construction of knowledge identified in the CoI and CoP models can be replicated in online faculty development. Further, participants and designers, through interview comments and survey responses, confirmed their understanding of the importance of learner-to-learner interactions within a course. This paralleled the findings of several other researchers that social presence can be strongly felt by faculty in an online environment (Anshu et al., 2010; Chen, Chen, & Tsai, 2009; Vaughan & Garrison, 2005; Wearne et al., 2011; Wynants & Dennis, 2018)

There are few studies that have been done previously on online faculty development. I will outline the most germane ones here and compare their results to that of this study. One study of particular interest for comparison, due to its parallels to the goals of this study, is that of Pacansky-Brock (2015). Her study looked at faculty preferences between an interactive eBook and synchronous webinars to learn how to incorporate into their courses a new teaching tool. She found faculty preferred online resources because of the increased access, noting freedom of access from anywhere, ability to learn on their own time, and elimination of access barriers. "Online faculty development resources created a more efficient support experience for faculty because they felt they were more in control of the experience" (p. 102). As in this study, faculty in her study preferred brief online videos for the delivery of teaching examples. But the component her subjects felt was lacking was an integration of community into the online experiences. Pacansky-Brock also found faculty prefer support experiences that are user-centered instead of presenter-centered. Finally, her research also confirmed the category of validation found here. Her participants who were alone in their campuses use of a teaching tool, felt isolated. And their participation in the online faculty development validated their use of the tool confirming its value for them. This is very similar to the interviewees' comments in this study about the validation of current teaching strategies through online interactions.

Of additional interest is the study done by Vaughan and Garrison (2005) applying the CoI model to a blended faculty development community. This is of interest because these authors were instrumental in the building of the CoI model and because it is one of the few examples of this model being applied in faculty development. However, this is

limitedly helpful because the focus of the study was on the differences between the face-to-face components and the online components in their blended program, rather than the unique concerns of faculty as learners. One element of note is the finding that the teaching presence role may be shared among participants and not solely reside within the facilitator. This study found "this is particularly true in a faculty development context where considerable expertise exists in the community" (p. 3). This aligns with the category from this study's interviews stressing the importance of faculty as co-leaders and the peer support. They also found, as seen in this study, that it can be very difficult to move a discussion into the resolution phase.

Anshu, Bansal, Mennin, Burdick, and Singh (2008) looked at a blended faculty development model for medical educators in south Asia. This involved a face-to-face kickoff session followed by an 11-month online experience. They found "the [online] interpersonal learning environment facilitated effective learning and rejuvenated the learning experiences and network established during the face-to-face sessions" (p. 2). The benefits they saw in this format were its cost-effectiveness and flexibility. This aligned with the findings of this study as well as the primary categories of the CoP and CoI models which stress the importance of the interactions between participants for learning.

Chen, Chen, and Tsai (2009) looked at professional development provided to K-12 teachers through online synchronous discussions. They found these discussions "served not only as a learning tool but also an avenue for teachers to request and provide information, socialize and support each other" (p. 1155). According to these researchers, the benefit of this format was access to development activities that might not be offered locally. This aligns with the category from this study of increased access. Although,

preference in the current study was found for asynchronous opportunities which allowed even more control of schedule and choice.

Wearne, Greenhill, Berryman, Sweet, and Tietz (2011) looked at Australian clinicians participating in an online course on adult education for clinicians which could be applied toward a certificate, diploma or master's degree. Optional intensive workshops supplemented the online study. Benefits included the ability to reach rural clinicians. Their participants found value in the ability to interact with peers and learn alongside those in other disciplines. They also valued the ability to work at their own pace and not have to travel to a nearby city to participate. Again, this reinforces the concepts of learning through the perspectives of peers and the importance of increased access. Their participants also commented on gaining "a strong sense of not being alone as I watched others contribute to the same problems" thus also confirming the category of validation found in the participants of this study (p. 1001).

Ching and Hursh (2014) looked at the effects on teaching resulting from K-12 teachers participating in online faculty development. They look over time at what technologies the participants choose to implement and how those decisions were affected by peer modeling in the course. In doing so, they argue that "existing conversations need to attend to the important role that peers play in teachers' learning and innovation adoption, particularly in online learning environments" (p. 72). As with the previous studies cited here, they found value in the flexibility of the schedule. But further, they stress the importance of teachers having the opportunity to be in the role of student in an online course and how this along with their peer interactions improve outcomes. This supports the category of perspective-taking found in this study.

Finally, Wynants and Dennis (2018) looked at providing disability awareness training through an online faculty development model. They specifically focused on the perspectives of ten faculty from the frameworks of universal design for instruction and CoI. Faculty noted they had learned more in this online format than in face-to-face experiences. They attributed this to the format leading to "greater reflection and processing of the program content" (p. 10). They also found the flexibility and control of pace to be benefits of the platform. Faculty also appreciated the ability to go back and review materials later. However, they found the lack of social interaction and accountability to be challenges. This again stresses the importance of both the design itself and the facilitator role in the delivery to assure participants do not experience an isolating effect and do experience those elements of perseverance by feeling a sense of connectedness to their peers and the facilitator within the course.

The categories related to validation, perspective taking, increased access, flexibility of design and the facilitator role have been well supported in prior studies of online faculty development. However, what has come out as unique to this study is the overarching concept of humanizing and encouraged perseverance through course design and delivery. While these speak strongly to the CoI elements of social presence and teaching presence, they have not specifically been approached in the online faculty development literature, other than by the model's architects themselves in the Vaughan and Garrison (2005) blended faculty development study. These categories have been incorporated centrally into the revision of the conceptual model for this study.

**Revised Conceptual Model**

Based on the findings of this study, I revisited the conceptual model presented in Chapter 2. The original model emphasized the process. This revised conceptual model places at the center those more humanizing elements in the themes that emerged from the designer and participant interviews and that were confirmed through the survey and course discussion data. These are broken into two groups: humanizing design elements and engagement outcomes. Within the humanizing design, the categories are: deliberate practice, and customizable, and learner-centered experience. Within engagement outcomes, the elements are validation and perseverance. The revised model is shown below in Figure 10 and these changes are detailed in the remainder of this section. The two groups of themes are represented in the center of the model within the online faculty development course. They are represented as equal components of the course with a reciprocal relationship between them. Throughout the course, strong design will result in successful outcomes. And the engagement outcomes will continue to promote faculty participation making the design successful. Barriers will be mitigated as much as possible when these elements are present. And motivation will be enhanced.

For a design to be humanizing it should support faculty at all levels of the learning process, increase access for more diverse groups, allow faculty opportunities to share their stories, and neutralize the power dynamics. All activities, whenever possible, should be designed to have faculty applying material to their actual courses or other
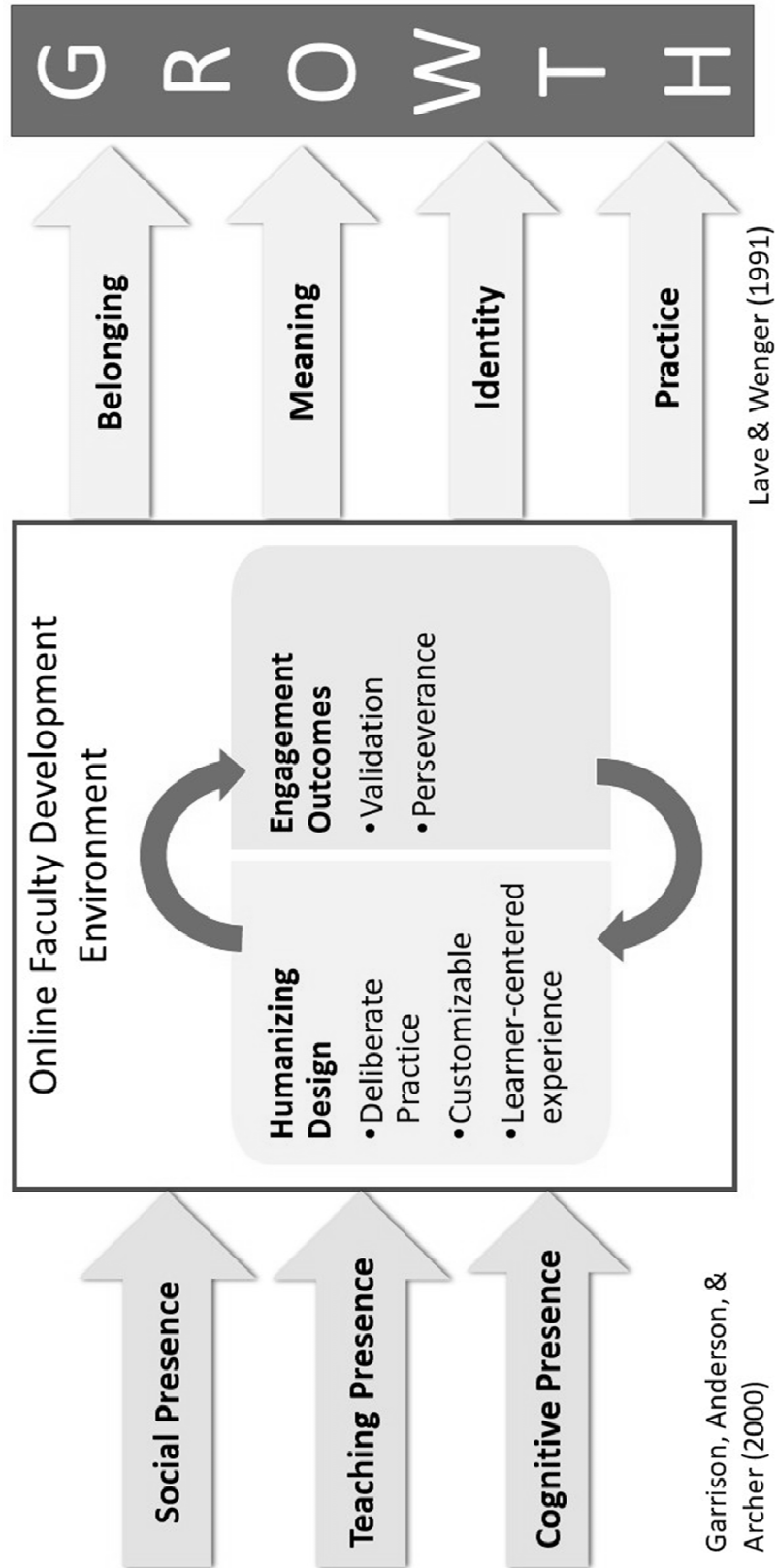
Figure 10. Social Learning Process Revised Conceptual Model

related academic work having them reflecting on the application of material and receiving feedback. The course should be designed in such a way that faculty have a central role in the learning process through learner-to-learner discussion and peer teaching or feedback, and it should promote peer support. The design should have a longitudinal component allowing for continued follow-up or interaction after the initial course. Finally, the design should have built-in flexibility allowing faculty choice in timing, ways components are completed, ways material is presented, and which components are completed.

The experience should be one that helps validate faculty teaching struggles, helps them identify areas of their teaching that are working and those that need improvement, and builds in opportunities for faculty to gain confidence through overcoming challenges. Faculty participants should be encouraged to learn through taking on both the perspective of students through their role in the course as well as that of their peers from other disciplines which will give them a fresh perspective on their own teaching. The experience should include interactions with the facilitator serving as a guide, providing encouragement and feedback, but allowing the participants themselves opportunities to lead wherever possible. And finally, support should be provided to promote faculty perseverance which may include their commitment to themselves, a sense of commitment to the facilitator, or a sense of social proofing in which they feel committed to their peers in the course.

The final addition to the conceptual model from its original envisioning is the outcome of growth. One very important lesson learned from this project is that success cannot be measured purely from whether or not participants completed components of a

167

course. Unlike for-credit coursework, faculty participants are working toward their own goals in their teaching which might or might not necessitate their completion of all components of a course. They may be selecting key elements from multiple faculty development opportunities, having discussions with peers and students, and juggling many other outside obligations. But that does not mean they are not addressing in their development. We need an industry paradigm shift away from the measurement of success through completion but rather looking at success through individual growth and application to teaching. Have faculty moved along the continuum gaining growth in the areas of belonging, meaning, identity, or practice? Then the community within the course has helped them develop and that we need to be measuring as success.

While the categories found in the designer interviews can be seen as mapping well onto the CoI model, these also show the importance of recognizing the participant in a dual role, that of teacher and learner simultaneously. The distinctions are not as clear as they are in the typical online course. Designers and participants repeatedly stressed the importance of the knowledge and background the faculty bring to the table setting them apart from a typical student in a course.  The learning cannot be easily framed in a finite timeframe, but rather needs to be extended beyond the course and sit on a continuum of growth in which faculty are exposed to the material, practice implementation, learn more, and practice again. There is no finite end of class, grade, assignment, or exam that in itself signifies reaching expertise.

## Significance of Findings

To assure faculty have the necessary skill set to tackle the challenges higher education is facing today, there needs to be a widespread adoption of empirically validated delivery methods to educate faculty in evidence-based teaching practices (American Association for the Advancement of Science, 2011; Gehrke, & Kezar, 2017; President's Council of Advisors on Science and Technology, 2012). Institutions must seek out ways to provide faculty development accessible to all faculty and which ensures their understanding and use of these evidence-based practices (Wynants & Dennis, 2018). In recent years new pedagogical strategies and rapidly changing technology in the field have increased the need for faculty to participate in ongoing development. Student populations also continue to shift, including greater numbers of at-risk students. This requires additional faculty knowledge about how to support these students. At the same time, changes in the academic environment make it more challenging for faculty to prioritize participation in pedagogically-focused face-to-face development programs. These changes include increasing demands on faculty schedules, competing demands to focus on research and obtain grants, and increasing part-time faculty appointments. As a result, the faculty development model is seeing a shift toward online asynchronous offerings to increase accessibility.

While researchers have focused heavily on determining best practices for online course offerings, few have evaluated these findings in online offerings for faculty who bring their own unique needs and motivations. Particularly, it is important to look at how

developers construct communication and social interactions in these online programs as this is key to learning. This study evaluated online faculty programs for the development of community and social interaction utilizing the existing frameworks of CoP and CoI.

While many faculty development researchers tout the value of building reflective communities of practice such as faculty learning circles, the truth is this is rarely the entry point most faculty encounter when initially searching out development opportunities. They are looking for shorter-term focused workshops or programs to meet a specific need. Therefore, this study focused on the most effective design and delivery mechanisms in these online program models. The resulting conceptual model identified those practices which best help facilitate the social construction of knowledge in online faculty development programs.

## Limitations, Positionality, and Bias

It is important in any research project to also take into consideration what limitations exist and what biases could come into play in either the data collection or analysis. Therefore, before exploring the implications of these findings, I will highlight potential limitations of this study. First, there is the challenge of selection of faculty participants for the course. Because participation was voluntary, there could be a self-selection bias in the group that chose to participate. It is likely this group was already comfortable with technology and familiar with or interested in online instruction strategies. However, some participants did report being new to online learning and a little daunted by the challenge of taking the course. To try to counter this, gatekeepers

referring participants were encouraged to reach out to faculty who might be less technologically comfortable or less familiar with online teaching and learning science. Additionally, the topic of learning science could draw participants who are naturally more interested in social interaction and more likely to be highly participatory. This could also affect the applicability of any results.

Finally, it is possible the interviews could have resulted in biased data since I was both the course facilitator and the interviewer. Therefore, participants may not have felt fully comfortable providing honest data about their experience. An additional conflict could have arisen from the fact I had prior established relationships with some of the participants. Two of the participants I had previously worked with in an instructional designer capacity. Two additional participants serve on a regional committee I also serve on. Several also have colleagues who I know through professional networks. To attempt to mediate this, there was an open-ended question on the confidential post-survey. This hopefully encouraged participants to provide any critical comments they had. However, no negative comments were provided.

To determine positionality and potential biases, I looked carefully at my own background and experience. I have worked for many years in program development and faculty support. I look at things from the designer's perspective: What do I want faculty to take away from a faculty development experience? Am I using the right materials? Being aware of this, I tried to put this perspective aside and engage wholly and openly in the researcher role. I did this through a process called the epoche, or bracketing (Merriam & Tisdell, 2016). Through this process, a researcher suspends bias by engaging in self-

reflection and meditation. I took no position in advance of the course or interviews and gave equal value to every experience that was shared by the participants.

This exercise helped me understand the experience of online faculty development through my participants' eyes. They helped me recognize the importance of humanizing the experience. Many participants had substantial barriers to participation that came up unexpectedly during the summer and yet they continued with the course, completing as many of the activities as they could. Almost all participants completed the post-course survey and post-course interview despite these barriers. Several reported a commitment to me and not wanting to let me down. But they gave me much more than that. Although most participants were strangers or mere acquaintances to me at the start of this experience, they shared their challenges and their excitement. I look forward to an ongoing relationship with them as we continue our communication and I get to learn of their successes and challenges implementing their newly acquired strategies.

Through this process I found myself engaging in a lot of reflective practice and reconsideration of the whole concept of faculty development. Being primarily trained as a project manager I tend to have a very linear and concrete concept of what constitutes a program and the steps it should involve, call it a checkbox mentality. Many designers also share this approach to teaching a course. There is a set of learning objectives. They should be covered in the duration of the program, hopefully in an engaging and active way that involves learner-to-learner interaction. And participants should complete some sort of activity showing they understand the material, again ideally in some way that shows they have mastered application. Done, program built, and success measured by the learners participating and completing all the required elements.

172

Through the amazing discussions I engaged in throughout this project I have learned this linear, checkbox mentality cannot be applied holistically to online faculty development or even faculty development in general. Even though many participants struggled with substantial barriers during their participation. All participants had what would be recognizable as successes regardless of the boxes they were able to check. All participants learned something they were able to apply in their classes. Everyone had reflective moments about their teaching that changed their practice in positive ways. As a result, I have reconsidered my model of what these courses need to be. And more importantly, it identified for me a need to redefine our outcomes measures in faculty development. I have detailed the revised version of my conceptual model which incorporates these concepts.

There are several organizations beginning to do very innovative things with virtual faculty learning communities and virtual teaching circles. As they are doing, I now see the need for us all to get out of the course mentality and go in this direction with our programs to allow more flexible ways for faculty to engage and find success in our programs.

**Implications for Practitioners**

Learning through virtual modes has become highly popular in recent years in both corporate training and academia. According to Global Markets Insights, Inc. (2018), the online learning market is predicted to have a growth rate of 5% compounding annually between 2019 and 2024. "Technology has made its place in among people as a reliable

form of learning and development" (Jarrett, 2019, p.1). And we are seeing that trend in our institutions as well with growing numbers of teaching centers turning to online for delivery of faculty development. Therefore, it is more important than ever to look with an evidence-based lens at what is effective in online faculty development.

I do not propose that online faculty development is better or worse than face-to-face or blended methods of delivery. Rather I recognize that the fully online platform is a growing delivery method (Global Markets Insights, Inc., 2018). Therefore, I explored strategies identified as best practices in the field through this mixed-methods study. Findings from this research may be useful to: 1) those building online faculty development programs, 2) participants engaged in online faculty development programs, 3) educational accrediting bodies looking at the quality of faculty development, and 4) students.

This study engaged online faculty development practitioners in a process of inquiry, providing an opportunity to examine the frameworks and processes that influence current online faculty development in supporting the needs of the higher education community. This process looked deeply at our practice of applying current research on for-credit courses to how we design and deliver online faculty development. These findings show that these practices need to be adjusted to account for the unique motivations and barriers faculty experience. And the need for an adjustment of our measurement of outcomes to account for outside influencing factors. We need to not only look at individual online faculty development courses or programs but look at the greater longitudinal path faculty are on and be sure to maintain their route toward growth in their

sense of belonging, meaning, identity, and practice. This will help inform future online faculty development design and delivery practices.

The reflection process engaged in this study resulted in a revision of the conceptual model to one that delves deeper into not only the learning process but how that process is influenced by critical components outside of the online faculty development course. As we, as a field, continue to see a greater swell of the use of online asynchronous delivery mechanisms for faculty development, we need to seriously consider the elements in this model.

Mellow, Woolis, Klages-Bombich, and Restler (2015) found long term immersion learning strategies to be a valuable way for faculty to engage with new concepts and ideas, through actively attempting to apply them while learning. This authentic strategy for learning can be more effective and efficient and build motivation due to their personalized focus to a specific need. Organizations such as Faculty Guild have started adapting dynamic environments of reflective practice just such as this to the online environment by utilizing a tagging system to give faculty the flexibility of selecting those strategies and terminology that apply best to their current challenge (Faculty Guild website). We as a field need to develop more dynamic models in this direction.

## Future Research Directions

This mixed-methods study looked at the effects of one specific online faculty development design on 31 participants through just one delivery tool, Canvas. It would be beneficial to repeat the study with different populations and tools to see if there are

additional factors that could be identified as specific to certain populations. For example, different race and gender makeups, disciplines, or institutional cultures may find alternative results. Further categories that emerged such as the concept of longer-term learning opportunities would benefit from further investigation than was possible within the parameters and scope of this project.

Additionally, while this study did ask participants about their prior experience with online education, it did not delve into their tendency toward early adoption and comfort with technology. In other words, should we design online faculty development differently for digital natives? Digital natives are those for whom digital technology has become abundant due to exposure from early in life (Prensky, 2001). It could be helpful if future research looked more carefully at these or other generational differences potentially affecting comfort with technology to determine what different kinds of scaffolding different learners might need.

It might also be helpful to explore if different topics would elicit different results. It is certainly a viable hypothesis that the online environment could lend itself better to the teaching of some development topics over others. Designers reported the most common online faculty development topic was the skill of teaching online. In this study, I opted for the more neutral, less technology-focused, topic of how learning works. Both topics naturally lend themselves to online faculty development. More sensitive or theory-based topics might not lend themselves as easily. A comparative study with alternative material could help determine how broadly applicable this model could be.

Another element that might be important to delve into in future research is how faculty access online faculty development. In this study, most participants reported

utilizing a laptop. But some were traveling or reviewing content on their lunch break and so were using phones and other mobile devices. As faculty try to balance eLearning with other jobs (e.g., part-time faculty), family requirements, vacations, conferences or other work travel, etc., mobile devices become an attractive option. For the same reasons online faculty development is desirable, so is turning to mobile devices to access it. However not all platforms and materials are mobile compatible. Therefore, if this is a growing trend, online faculty developers should understand the effects that has on this model. Further research would be beneficial to determine this.

One of the findings of this project was that some faculty moved between the engagement phases of lurker, casual, active, committed and loyalist. Within this project, it was not possible to determine what effects this movement had on their learning and application outcomes. Future researchers might find it helpful to delve further into the effects of these engagement phases.

Finally, this project also looks only at an asynchronous fully online delivery as it is hoping to address the concerns about time availability and current trends moving to this delivery method. However, it would be helpful to also understand best practices for synchronous delivery or blended formats, those with some face-to-face elements mixed in with the online elements. While addressing these concerns is outside the scope of this project, this would be excellent for future research.

## CONCLUSION

Participants need more than just resources (learner-to-content interaction) to learn. They need the social support that helps them co-construct knowledge and overcome learning and participation barriers. "In this social era, value is created through openness, sharing, and the cultivation of community" (Pacansky-Brock, 2015, p. 133). This study has identified online faculty development as an effective method of providing sustainable co-created learning opportunities through its ability to support the development of community leading to the social construction of knowledge. However, looking at the unique motivations of faculty participation, designers will be most successful taking a broader approach to design. Elements critical to incorporate in online faculty development programs include deliberate practice, customizability, and a humanizing learner-centered experience. Further, it is critical the program provides faculty with the opportunity for validation and generation of perseverance. In this study, five themes were identified. 1) Participants need opportunities for deliberate practice that incorporate application, feedback, and reflection. 2) Participants seek to customize their experience to their unique backgrounds and needs. 3) Participants desire a learner-centered experience that elicits and values their contributions. 4) Community creates validation through a sense of shared practice and overcoming challenge. 5) Through engagement, community fosters perseverance to overcome barriers.

As demands for increased incorporation of technology and online opportunities in faculty development increase, institutions need to consider quality implementation that

recognizes the benefits and challenges of this platform. Implementation should focus on programs that are not only available but effective. "The manner in which scholars and practitioners in the field of teaching and learning have led their institutions to respond to these challenges has marked the difference between a thriving organization and one that is struggling simply to survive" (McKee & Tew, 2013, p. 3).

The conceptual model developed in this study can help guide those decisions and educate leaders to transform pedagogy that meets the changing needs of their faculty into the future by anchoring them in a humanizing, learner-centered environment that meets the unique needs of part-time and full-time faculty effectively. The concept of humanized and flexible learning will be central to the future of online faculty development in higher education.

**REFERENCES**

Accreditation Council for Graduate Medical Education. (2015). *Moving toward online faculty development: The view over the horizon workshop*. Annual Meeting: February 26-March 1, 2015; San Diego, CA.

Adnan, M., Kalelioglu, F., & Gulbahar, Y. (2017). Assessment of a multinational online faculty development program on online teaching: Reflections of candidate e-tutors. *Turkish Online Journal of Distance Education, 18*(1), 22-38.

Afeli, S. A., Houchins, T. A., Jackson, N. S., & Montoya, J. (2018). First generation college students demographic, socio-economic status, academic experience, successes, and challenges at pharmacy schools in the united states. *Currents in Pharmacy Teaching and Learning, 10*(3), 307-315.

Amundsen, C., & Wilson, M. (2012). Are we asking the right questions? A conceptual review of the educational development literature in higher education. *Review of Educational Research, 82*(1), 90-126.

American Federation of Teachers (2010). A national survey of part-time/adjunct faculty. *American Academic, 2*. Retrieved from: https://www.aft.org/sites/default/files/aa_partimefaculty0310.pdf

American Association for the Advancement of Science. (2011). *Vision and change: A call to action final report.* Washington, DC. Retrieved from http://visionandchange.org/finalreport/.

Anderson, T. (2008). *The theory and practice of online learning* (2nd ed.). Edmonton,

　　　Canada: AU Press.

Anderson, L. W., & Krathwohl, D. R. (Eds.) (2001). *A taxonomy for learning, teaching,*

　　　*and assessing: A revision of bloom's taxonomy of educational objectives*

　　　(Complete ed.). New York, NY: Addison Wesley Longman.

Andrews, T. C., & Lemons, P. P. (2015). It's personal: Biology instructors prioritize

　　　personal evidence over empirical evidence in teaching decisions. *CBE Life*

　　　*Sciences Education, 14*(1), ar7.

Anshu, M.S., Bansal, P., Mennin, S. G., Burdick, W. P., & Singh, T. (2008). Online

　　　faculty development for medical educators: Experience of a south asian program.

　　　*Education for Health, 21*(3), 175.

Anshu, M. S., Burdick, W. P., & Singh, T. (2010). Group dynamics and social interaction

　　　in a south asian online learning forum for faculty development of medical

　　　teachers. *Education for Health, 23*(1), 311-319.

Austin, A., & Sorcinelli, M. (2013). The future of faculty development: where are we

　　　going? In *New Directions for Teaching and Learning, 133*, 85–97.

Austin, A. E., & Barnes, B.J. (2005). Preparing doctoral students for faculty careers that

　　　contribute to the public good. In A. J. Kezar, T. C. Chambers, J. C. Burkhardt and

　　　Associates (Eds.), *Higher education for the public good: Emerging voices from a*

　　　*national movement.* San Francisco, CA: Jossey-Bass.

Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P., Richardson, J.

　　　C., & Swan, K. P. (2008). Developing a community of inquiry instrument:

Testing a measure of the community of inquiry framework using a multi-institutional sample. *The Internet and Higher Education, 11*(3), 133-136.

Bagherian, F., & Thorngate, W. (2000). Horses to water: Student use of course newsgroups. *First Monday, 5*(8). Retrieved from http://firstmonday.org/ojs/index.php/fm/article/view/779/688.

Baldwin, R. G., & Chang, D. A. (2006). Reinforcing our "keystone" faculty: Strategies to support faculty in the middle years of academic life. *Liberal Education, 92*(4), 28.

Bandura, A. (1969). Social learning theory of identificatory processes. In D. A. Goslin (Ed.), *Handbook of Socialization Theory and Research* (pp. 213-262). Chicago, IL: Rand McNally & Company.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1978). The self system in reciprocal determinism. *American Psychologist, 33*, 344-358.

Bandura, A., 1925. (1997). *Self-efficacy: The exercise of control.* New York, NY: W.H. Freeman.

Baran, E., Correia, A., & Thompson, A. (2013). Tracing successful online teaching in higher education: Voices of exemplary online teachers. *Teachers College Record, 115*(3), 1.

Bess, J. L. (1997). The motivation to teach: Perennial conundrums. In J. L. Bess (Ed.), *Teaching well and liking it: Motivating faculty to teach effectively* (pp. 424-439). Baltimore, MD: Johns Hopkins University Press.

Bier, A. (2014). The motivation of second/foreign language teachers. *Educazione Linguistica Language Education, 3*(3).

Bill and Melinda Gates Foundation (2016). Postsecondary success: Today's college students. Retrieved from https://postsecondary.gatesfoundation.org/what-were-learning/todays-college-students/.

Bloom, B.S. (Ed.) (1956). *Taxonomy of educational objectives: The classification of educational goals, Handbook I: The cognitive domain.* New York, NY: Longman.

Bouwma-Gearhart, J. (2012). Research university STEM faculty members' motivation to engage in teaching professional development: Building the choir through an appeal to extrinsic motivation and ego. *Journal of Science Education and Technology, 21*(5), 558-570.

Brancaccio-Taras, L., Gull, K. A., & Ratti, C. (2016). The science teaching fellows program: A model for online faculty development of early career scientists interested in teaching. *Journal of Microbiology and Biology Education, 17*(3), 333-338.

Brookfield, S. (2012). *Teaching for critical thinking: Tools and techniques to help students question their assumptions* (1st ed.). San Francisco, CA: Jossey-Bass.

Brookfield, S., & Preskill, S. (2005). *Discussion as a way of teaching: Tools and techniques for democratic classrooms* (2nd ed.). San Francisco, CA: Jossey-Bass.

Brookfield, S., & Preskill, S. (2015). *The discussion book: 50 great ways to get people talking.* San Francisco, CA: Jossey Bass.

Brown, P. C., Roediger, H. L., & McDaniel, M. A., (2014). *Make it stick: The science of successful learning.* Cambridge, MA: The Belknap Press of Harvard University Press.

Brownell, S. E., & Tanner, K. D. (2012). Barriers to faculty pedagogical change: Lack of

    training, time, incentives, and…tensions with professional identity? *CBE—Life*

    *Sciences Education, 11*(4), 339-346.

Bruner, J. S. (1960). *The Process of education.* Cambridge, MA: Harvard University

    Press.

Bruner, J. S. (1966). *Toward a theory of instruction.* Cambridge, MA: Belknap Press of

    Harvard University.

Chen, N., Chen, Y., & Tsai, C. (2009). The use of online synchronous discussion for

    web-based professional development for teachers. *Computers & Education, 53*(4),

    1155-1166.

Chi, M. T. H., & Wylie, R. (2014). The ICAP framework: Linking cognitive engagement

    to active learning outcomes. *Educational Psychologist, 49*(4), 219-243.

Chickering, A.W., & Ehrmann, S. C. (1996). Implementing the seven principles:

    Technology as lever. *American Association of Higher Education Bulletin, 49*(2),

    3-7.

Chickering, A.W., & Gamson, Z. F. (1987). Seven principles for good practice in

    undergraduate education. *American Association of Higher Education Bulletin,*

    *39*(7), 3-7.

Ching, C.C., & Hursh, A.W. (2014). Peer modeling and innovation adoption among

    teachers in online professional development. *Computers & Education, 73*, 72-82.

Chism, N., Gosling, D. & Sorcinelli, M. D. (2010). International Faculty Development:

    Pursuing Our Work with Colleagues Around the World. In K. J. Gillespie, D. L.

Robertson, and Associates, (Eds.), *A Guide to Faculty Development*, (2nd ed.) (pp. 243-258). San Francisco: Jossey-Bass.

Community of Inquiry Network website. (n.d.). Retrieved from https://coi.athabascau.ca/coi-model/.

Cook, D. A. (2014). Faculty development online. In Y. Steinert (Ed.) *Faculty Development in the health professions: A focus on research and practice* (217-241). Netherlands: Springer.

Cook, D. A., & Steinert, Y. (2013). Online learning for faculty development: A review of the literature. M*edical Teacher, 35*(11), 930-937.

Corbin, J. & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology, 13*, 3-21.

Corbin, J., & Strauss A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory (3rd. Ed)*. Thousand Oaks, CA: Sage.

Cox, M. D. (2004). Introduction to faculty learning communities. *New Directions for Teaching and Learning,* 5-23.

Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences, 9*, 199-127.

Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences, 13*, 309-320.

Crawford, C. M. (2016). Instructor immediacy and authenticity: Engaging in cognitive vulnerability within the online instructional environment. In S. D'Agustino (Ed.), *Creating teacher immediacy in online learning environments* (pp. 15–36). Hershey, PA: Information Science Reference.

Csikszentmihalyi, M. (2014). Intrinsic Motivation and Effective Teaching. In

    *Applications of Flow in Human Development and Education.* Dordrecht, Springer.

Cuddapah, J. L., & Clayton, C. D. (2011). Using Wenger's communities of practice to

    explore a new teacher cohort. *Journal of Teacher Education, 62*(1).

Cutler, R. (1995). Distributed presence and community in cyberspace. *Interpersonal*

    *Community and Technology: An Electronic Journal for the 21st Century, 3*(2):

    12-32. Retrieved from http://www.helsinki.fi/science/optek/1995/n2/cutler.txt.

Dailey-Hebert, A., Norris, V. R., Mandernach, B. J., & Donnelli-Sallee, E. (2014).

    Expectations, motivations, and barriers to professional development: Perspectives

    from adjunct instructors teaching online. *The Journal of Faculty Development,*

    *28*(1), 67.

Deci, E. L., Kasser, T., & Ryan, R. M. (1997). Self-determined teachers: Opportunities

    and obstacles. In J. L. Bess (Ed.). *Teaching well and linking it: Motivating faculty*

    *to teach effectively.* Baltimore, MD: Johns Hopkins University Press, 57-71.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human*

    *behavior.* New York, NY: Plenum.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs

    and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268.

Dede, C., Jass Ketelhut, D., Whitehouse, P., Breit, L., & McCloskey, E. M. (2009). A

    research agenda for online teacher professional development. *Journal of Teacher*

    *Education, 60*(1), 8-19.

Delahaye Paine, K. (2011). *Measure what matters: Online tools for understanding customers, social media, engagement, and key relationships* (1. Aufl. ed.). New York, NY: Wiley.

Dewey, J. (1938). *Experience and education.* New York, NY: Macmillan. Originally a Kappa Delta Pi publication.

De Wever, B., Schellens, T., Valcke, M., & Van Keer, H. (2006). Content analysis schemes to analyze transcripts of online asynchronous discussion groups: A review. *Computers and Education, 46*(1), 6-28.

De Wever, B., Van Keer, H., Schellens, T., & Valcke, M. (2009). Structuring asynchronous discussion groups: The impact of role assignment and self-assessment on students' levels of knowledge construction through social negotiation. *Journal of Computer Assisted Learning, 25*(2), 177-188.

Diaz, V., Garrett, P.B., Kinley, E.R., Moore, J.F., Schwartz, C.M., & Kohrman, P. (2009). Faculty Development for the 21st Century. *EDUCAUSE Review, 44*(3), 46-55.

Dunlap, J. C. (2009). Down-and-dirty guidelines for effective discussions in online courses. In

P. R. Lowenthal, D. Thomas, A. Thai, & B. Yuhnke, B. (Eds.), *The CU Online handbook.*

*Teach differently: Create and collaborate* (pp. 93-99). Raleigh, NC: Lulu Enterprises.

Eble, K. E. (1988). *The craft of teaching: A guide to mastering the professor's art* (2nd ed.). San Francisco, CA: Jossey-Bass.

Ericsson, K. A., & Smith, J. Eds. (1991). *Toward a general theory of expertise: Prospects and limits.* New York, NY: Cambridge University Press.

Ertmer, P. A., Sadaf, A., & Ertmer, D. J. (2011). Student-content interactions in online courses: The role of question prompts in facilitating higher-level engagement with course content. *Journal of Computing in Higher Education, 23*(2), 157-186.

Eyler, J. R. (2018). *How humans learn: The science and stories behind effective college teaching.* Morgantown, WV: West Virginia University Press.

Faculty Guide website (n.d.). Retrieved from https://www.facultyguild.org/about-us.

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education, 2*, 87-105.

Garrison, D. R., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. *American Journal of Distance Education, 15*(1), 7-23.

Garrison, D. R., & Arbaugh, J. B. (2007). Researching the Community of Inquiry Framework: Review, issues and future directions. *The Internet and Higher Education, 10*(3), 157−172.

Gehrke, S., & Kezar, A. (2017). The roles of STEM faculty communities of practice in institutional and departmental reform in higher education. *American Educational Research Journal, 54*(5), 803-833.

Gess-Newsome, J., Southerland, S. A., Johnston, A., & Woodbury, S. (2003). Educational reform, personal practical theories, and dissatisfaction: The anatomy

of change in college science teaching. *American Educational Research Journal, 40*(3), 731-767.

Gillespie, K. J. & Robertson, D. L. Eds. (2010). *A guide to faculty development* (2nd ed.). San Francisco, CA: Jossey-Bass/Wiley.

Glass, C. R. (2017). Self-expression, social roles, and faculty members' attitudes towards online teaching. *Innovative Higher Education, 42*(3), 239-252.

Global Markets Insights, Inc. (2018). E-learning market to grow at 5% compound annual growth rate from 2017 to 2024. *Training Magazine.* Retrieved from https://trainingmag.com/e-learning-market-grow-5-compound-annual-growth-rate-2017-2024/.

Gorsky, P., & Blau, I. (2009). Online teaching effectiveness: A tale of two instructors. *International Review of Research in Open and Distance Learning, 10*(3), 1-27.

Gredler, M. E. (2009). *Learning and instruction: Theory into practice* (6th ed.). Upper Saddle River, NJ: Merrill Pearson.

Guldberg, K., & Pilkington, R. (2006). A community of practice approach to the development of non-traditional learners through networked learning. *Journal of Computer Assisted Learning, 22*(3), 159-171.

Hannan, A. (2005). Innovating in higher education: Contexts for change in learning technology. *British Journal of Educational Technology, 36*(6), 975-985.

Hara, N., Bonk, C. J., & Angeli, C. (2000). Content analysis of online discussion in an applied educational psychology course. *Instructional Science, 28*(2), 115-152.

Harris, J. M. Jr., Sklar, B. M., Amend, R. W., & Novalis-Marine, C. (2010). The growth, characteristics, and future of online CME. *Journal of Continuing Education in the Health Professions, 30*(1), 3–10.

Healey, M. (2005). Linking research and teaching to benefit student learning. *Journal of Geography in Higher Education, 29*(2), 183-201.

Hew, K. F. (2015). Student perceptions of peer versus instructor facilitation of asynchronous online discussions: Further findings from three cases. *Instructional Science, 43*, 19–38.

Jaggers, S. S., & Xu, D. (2016). How do online course design features influence student performance? *Computers & Education, 95*, 270–284.

Jarrett, N. (2019). Biggest eLearning content trends of 2020 and beyond. *Edtech 4 Beginners.* Retrieved from https://edtech4beginners.com/2019/08/09/guest-post-biggest-elearning-content-trends-of-2020-and-beyond/.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge, England: Cambridge University Press.

Lipman, M. (1991). *Thinking in education.* New York, NY: Cambridge University Press.

Kezar, A., & Maxey, D. (2014). Faculty matter: So why doesn't everyone think so? *Thought and Action*, 29-44. Retrieved from https://www.nea.org/assets/docs/HE/e-Kezar.pdf.

Kunter, M., Tsai, Y., Klusmann, U., Brunner, M., Krauss, S., & Baumert, J. (2008). Students' and mathematics teachers' perceptions of teacher enthusiasm and instruction. *Learning and Instruction, 18*(5), 468-482.

Kyriakides, L., Creemers, B. P. M., & Antoniou, P. (2009). Teacher behaviour and

    student outcomes: Suggestions for research on teacher training and professional

    development. *Teaching and Teacher Education, 25*(1), 12-23.

Magna Report. (2015). *Administrator leadership and faculty support: Best practices for*

    *supporting faculty.* Madison, WI: Magna Publications.

Mathews, K. (2014). Perspectives on Midcareer Faculty and Advice for Supporting

    Them. Cambridge, Collaborative on Academic Careers in Higher Education.

    Retrieved from http://coache.gse.harvard.edu/files/gse-coache/files/coache-

    perspectives-on.pdf?m=1447625224.

Mazzolini, M., & Maddison, S. (2003). Sage, guide or ghost? The effect of instructor

    intervention on student participation in online discussion forums. *Computers &*

    *Education, 40*(3), 237–253.

McKee, C. W., & Tew, W. M. (2013). Setting the stage for teaching and learning in

    American higher education: Making the case for faculty development. *New*

    *Directions for Teaching U Learning, 2013*(133), 3-14.

Mellow, G. O., Woolis, D. D., Klages-Bombich, M., & Restler, S. (2015). *Taking college*

    *teaching seriously: Pedagogy matters! Fostering student success through faculty-*

    *centered practice improvement* (1st ed.). Sterling, Virginia: Stylus Publishing.

Menges, R. J. (1994). Preparing new faculty for the future. *Thought Action, 10*(2). 81-95.

Merriam, S.B. & Tisdell, E.J. (2016). *Qualitative research: A guide to design and*

    *implementation* (4th ed.). San Francisco, CA: Jossey-Bass/Wiley.

Meyer, K. (2004). Evaluating online discussions: Four different frames of analysis.

    *Journal of Asynchronous Networks, 8*(2), 101-114.

Miles, M.B., Huberman, A.M., & Saldaña, J. (2014). *Qualitative data analysis. A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage.

Moore, M. G. (1989). Editorial: Three types of interaction. *American Journal of Distance Education, 3*(2), 1-7.

Monaghan, P. (2017). Helping professors overcome midcareer malaise. *The Chronicle of Higher Education, 63*(36), A8.

Moustakas, C. E. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage.

National Center for Educational Statistics. (2018). *Digest of educational statistics, 2016.* Retrieved from https://nces.ed.gov/programs/digest/d16/index.asp.

Newman, D. R., Johnson, C., Cochrane, C., & Webb B. (1996). An experiment in group learning technology: Evaluating critical thinking in face-to-face and computer-supported seminars. *Interpersonal Computing and Technology, 4*(1), 57-74.

O'Donnell, V. L., & Tobbell, J. (2007). The transition of adult students to higher education: Legitimate peripheral participation in a community of practice? *Adult Education Quarterly, 57*(4), 312-328.

Palloff, R., & Pratt, K. (2007). *Building online learning communities* (2nd ed.). San Francisco: Jossey-Bass.

Palmer, N., & Schueths, A. M. (2013). Online teaching communities within sociology: A counter trend to the marketization of higher education. *Teaching in Higher Education, 18*(7), 809–820.

Pacansky-Brock, M. (2015). Examining the effects of an eBook to support faculty who teach with VoiceThread: An action research study. (Doctoral dissertation). Retrieved from https://pqdtopen.proquest.com/doc/1711709339.html?FMT=ABS.

Park, J. H., Schallert, D. L., Sanders, A., J. Z., Williams, K. M., Seo, E., Yu, L.-
T.,…Knox, M. C. (2015). Does it matter if the teacher is there?: A teacher's
contribution to emerging patterns of interactions in online classroom discussions.
*Computers & Education, 82*, 315–328.

Parks-Stamm, E. J., Zafonte, M., & Palenque, S. M. (2016). The effects of instructor
participation and class size on student participation in an online class discussion
forum. *British Journal of Educational Technology, 48*(6), 1250–1259.

Patton, M.Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand
Oaks, CA: Sage.

Perlman, A.M. (1998). *Writing great speeches: Professional techniques you can use.*
Boston, MA: Allyn and Bacon.

Pena-Shaff, J. B., & Nicholls, C. (2004). Analyzing student interactions and meaning
construction in computer bulletin board discussions. *Computers and Education,
42*(3), 243-265.

Piaget, J. (1954). *The construction of reality in the child.* New York, NY: Basic Books.

Piaget, J. (1977). *The development of thought: Equilibration of cognitive structures.* New
York, NY: Viking Press.

Porter, A. L., Roessner, J. D., Oliver, S., & Johnson, D. (2006). A systems model of
innovation processes in university STEM education. *Journal of Engineering
Education, 95*(1), 13-24.

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon, 9*(5), 1-6.

President's Council of Advisors on Science and Technology (U.S.), & United States.
Executive Office of the President. (2012). *Report to the president, engage to
excel: Producing one million additional college graduates with degrees in*

*science, technology, engineering, and mathematics.* Washington, D.C: Executive Office of the President, President's Council of Advisors on Science and Technology.

Quality Matters website (n.d.). Maryland Online. Retrieved from https://www.qualitymatters.org/about.

Redford, J. (2017). First-generation and continuing-generation college students: A comparison of high school and postsecondary experiences. *National Center for Education Statistics*. Retrieved from https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2018009.

Richardson, J. C., Besser, E., Koehler, A., Lim, J., & Strait, M. (2016). Instructors' perceptions of instructor presence in online learning environments. *International Journal of Research in Open and Distributed Learning, 17*(4), 82–103.

Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (2001). Methodological issues in the content analysis of computer conference transcripts. *International Journal of Artificial Intelligence in Education (IJAIED), 12*, 8-22.

Russell, M., Kleiman, G., Carey, R., & Douglas, J. (2009). Comparing self-paced and cohort-based online courses for teachers. *Journal of Research on Technology in Education, 41*(4), 443-466.

Shadle, S. E., Marker, A., & Earl, B. (2017). Faculty drivers and barriers: Laying the groundwork for undergraduate STEM education reform in academic departments. *International Journal of STEM Education, 4*(1), 1.

Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1-22.

Sorcinelli, M. D., Austin, A. E., Eddy, P. & Beach, A. (2006). *Creating the future of faculty development: learning from the past, understanding the present.* Bolton, MA: Anker Press.

Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.

Stupnisky, R. H., BrckaLorenz, A., Yuhas, B., & Guay, F. (2018). Faculty members' motivation for teaching and best practices: Testing a model based on self-determination theory across institution types. *Contemporary Educational Psychology, 53*, 15-26.

Swan, K., & Ice, P. (2010). The community of inquiry framework ten years later: Introduction to the special issue. *The Internet and Higher Education, 13*(1), 1-4.

Swan, K., Shea, P., Richardson, J., Ice, P., Garrison, D. R., Cleveland-Innes, M., & Arbaugh, J. B. (2008). Validating a measurement tool of presence in online communities of inquiry. *E-Mentor, 2*(24), 1-12.

Szabo, Z. (2015). Better together: Teams and discourse in asynchronous online discussion forums. *Journal of Psychological and Educational Research, 23*(1), 73–88.

Tarr, T. A. (2010). Working with Adjunct Faculty Members. In K. J. Gillespie, D. L. Robertson, and Associates, (Eds.). *A Guide to Faculty Development*, (2nd ed.) (pp. 347-362). San Francisco: Jossey-Bass.

Thomas, G., & Thorpe, S. (2019). Enhancing the facilitation of online groups in higher education: A review of the literature on face-to-face and online group-facilitation. *Interactive Learning Environments, 27*(1), 62-71.

Tirado Morueta, R., Maraver López, P., Hernando Gómez, Á., & Harris, V. W. (2016). Exploring social and cognitive presences in communities of inquiry to perform higher cognitive tasks. *The Internet and Higher Education, 31*, 122-131.

van Schie, J. (2008). Concept map of community of inquiry. Retrieved from http://cde.athabascau.ca/coi_site/documents/concept-map.pdf.

Vaughan, N., & Garrison, D. R. (2005). Creating cognitive presence in a blended faculty development community. *Internet and Higher Education 8*, 1-12.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman., Eds.) (A. R. Luria, M. Lopez-Morillas, & M. Cole [with J. V. Wertsch], Trans.) Cambridge, MA: Harvard University Press. (Original manuscripts [ca. 1930-1934]).

Wearne, S., Greenhill, J., Berryman, C., Sweet, L., & Tietz, L. (2011). An online course in clinical education: Experiences of australian clinicians. *Australian Family Physician, 40*(12), 1000-1003.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge, UK: Cambridge University Press.

Wilson, G., & Stacey, E. (2003). Online interaction impacts on learning: Teaching the teachers to teach online. In: Crisp, G., Thiele, D., Scholten, I., Baker, S., and Baron, J. (Eds.), *Interact, Integrate, Impact: Proceedings of the 20th Annual Conference of the Australian Society for Computers in Learning in Tertiary Education.* Adelaide, Australia: ASCILITE. Retrieved from: https://epubs.scu.edu.au/cgi/viewcontent.cgi?article=1166&context=tlc_pubs.

Wood, D. J., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychiatry and Psychology, 17*(2), 89-100.

Wynants, S., & Dennis, J. (2018). Professional development in an online context: Opportunities and challenges from the voices of college faculty. *Journal of Educators Online, 15*(1).

**APPENDIX A. DEFINITION OF TERMS**

*Asynchronous:* events or communication which do not happen at the same time, giving gaps of time between objects or occurrences. Example, email correspondence over several days.

*Bloom's taxonomy:* a hierarchical model published by Bloom in 1956 to categorize levels of learning from low to high level thought processes. The most often utilized version of the taxonomy is the 2001 version revised by Anderson and Krathwohl. The taxonomy contains three different domains, cognitive, affective, and psychomotor. The cognitive domain is the portion of the taxonomy most often used. Within the cognitive domain there are six levels from lowest to highest including: remembering, understanding, applying, analyzing, evaluating, and creating.

*Community of practice:* a group of people sharing a common interest, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis. This model contains three primary components: social presence, the ability for participants to present their genuine selves; cognitive presence, the ability to engage with the content; teaching presence, the instructor or facilitators interactions with the participants.

*Community of inquiry:* contextual framework based on the premise that knowledge exists within a social context and, thus, requires agreement among those involved in the interaction to be valid. The framework consists of three presences, cognitive, social, and teaching.

*Content knowledge:* one of four types of knowledge defined by Shulman (1987) consisting of knowledge about the subject matter or discipline itself.

*Curricular knowledge:* one of four types of knowledge defined by Shulman (1987) consisting of the understanding of how to apply students' prior knowledge to the curriculum being taught.

*Faculty learning communities:* a group of six to fifteen multi-disciplinary faculty, graduate students or professional staff engaging in an active, collaborative, yearlong program with a curriculum about enhancing teaching and learning. Activities include frequent seminars and activities that provide learning, development, community building, and completion of a scholarly project.

*General pedagogical knowledge:* one of four types of knowledge defined by Shulman (1987) consisting of the general concepts about teaching and learning that apply across disciplines.

*Inquiry:* the seeking of an explanation to observed phenomenon. It is cyclical and requires continual testing.

*Online discussion forum:* sometimes also called computer-mediated discussion, is an area online, typically part of a learning management system, allowing participants to interact via text, audio, or video. Typically, in an asynchronous fashion.

*Pedagogical content knowledge:* one of four types of knowledge defined by Shulman (1987) that is unique to educators and is the integration of their knowledge about teaching and their disciplinary knowledge. Essentially this is the skill level at which faculty determine what teaching strategies or pedagogy is best to teach specific topics within their discipline.

*Social-constructivist learning theory:* theory which focuses on the learning that takes place because of one's interactions in a group.

*Synchronous:* events or communications which occur at the same time. Example, an in-class discussion or webinar discussion.

## APPENDIX B. ONLINE DESIGNERS INTERVIEW PROTOCOL

*Interviews will be completed in person or via web conference at a location of the participants' preference. They will be video or audio recorded and transcribed for analysis.*

This semi-structured interview protocol is for use in interviews of staff and faculty responsible for building and delivering fully online faculty development series. These interviewees will have a separate consent from the course participants which will be collected from them prior to the interview.

Thank you for taking time to talk with me. I am excited to learn more about your online faculty development efforts for my dissertation research project. I anticipate this will take about 1 hour of your time. I have a series of open-ended questions I am going to go through. But please feel free to interject any information or questions you have at any time. I would like to start by asking a little bit about your teaching center.

Demographics/Background

1. Tell me about your teaching center unit? (follow-ups: size, staff, how long it has been around, who they serve)

2. What do you like most about your teaching center?

3. Tell me about the different types of disciplines you work with day-to-day? (follow-up: How broad a range of disciplines? What kind of support do you provide? Does it vary by discipline?)

4. Describe the types of faculty development programs and resources you offer?

    a. What formats are they typically offered in (online/blended/face-to-face, synchronous/asynchronous)?

    b. What types of tools do you use to deliver your online offerings and why?

    c. Do you use pre-packaged faculty development programs? (follow-up: If so what are your thoughts on these?)

5. What faculty development topics, if any, have you found lend themselves to online formats? Why? (List other things they mention they work with and ask why that doesn't lend itself to online).

6. What does your ideal online faculty development environment look like? (function, interaction)

7. How often are you able to achieve this ideal? What works against this ideal?

8. Tell me about a time you felt you met that barrier head on?

Social Engagement

9. How do you build a sense of community in online faculty development? (follow-up: How do you build in participant-participant interactions? How do you build in participant-facilitator interactions?)

10. What were your thoughts about the interactions within the course? (follow-up: What were your thoughts about the discussion forums specifically? What are your experiences with discussion forums in other courses?)

11. Have you seen these outcomes: meaning, identity, community, competent practice? [Share model]

Barriers

12. What motivates faculty to participate? (follow-up: Is it required? Is there a certificate?)

13. What barriers have you found to faculty participation?

14. Tell me about the best experience you have ever had?

15. Is there anything else you feel would be relevant for me to know that we did not already cover?

## APPENDIX C. PRE-SURVEY

*This survey was administered via an online survey software called Qualtrics.*

**UMSL** University of Missouri–St. Louis

Dear Participant,

Thank you for your interest in the *The Science of How Learning Works* course. This course is being offered for free as part of a dissertation project being conducted at the University of Missouri-St. Louis by Jennifer McKanry. The purpose of this study is to assess best practices in delivery of fully online faculty development programs. We appreciate your taking a few moments to complete this pre-course survey.
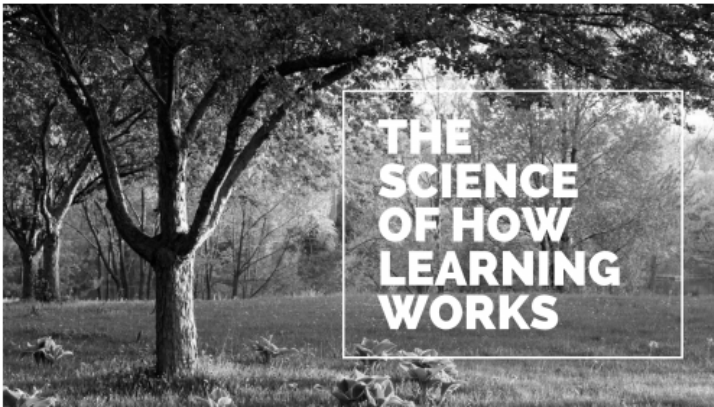


# Consent

# UMSL

Department of Education Sciences and Professional Programs

One University Boulevard
St. Louis, Missouri 63121-4499
Telephone:  314-516-4513
Fax: 314-516-7130
E-mail: mckanryj@umsl.edu

## Informed Consent for Participation in Research Activities
Building Community in Online Faculty Development

Participant _____        HSC Approval Number _____

ONLINE FACULTY COMMUNITY BUILDING

Principal Investigator ___Jennifer McKanry_____        PI's Phone Number __314-516-4513_____

---

## Summary of the Study

The purpose of this research is to examine effectiveness of fully online faculty development programs. This confidential pre-course survey is intended to collect a baseline understanding of the knowledge and experience of course participants. There will be an additional post-course survey to determine effectiveness of the course design. There will also be a post-course interview.

1.   You are invited to participate in a research study conducted by Jennifer McKanry under direction of Theresa Coble. The purpose of this research is to assess ways online discussion forums can build community in online faculty development programs to assure a collaborative, transformative learning process.

2.   a) Your participation will involve
➢  This confidential pre-course survey is intended to collect a baseline understanding of the knowledge and experience of course participants (approximately 5-10 minutes).
➢  Participation in the 4-week fully online course (approximately 3-6 hours per week).
➢  A post-course survey (approximately 5-10 minutes).
➢  An additional post course interview (approximately 1 hour).

Approximately up to 70 participants may be involved in this phase of this research at the University of Missouri-St. Louis.

 b) The amount of time involved in your participation will be approximately 3-6 hours per week over a 4 week time-period (there is no remuneration for this participation).

3.   There are no known risks associated with this research (other than the potential for mild boredom or fatigue).

4.   Direct benefits for participation include free enrollment in professional development.

6.   Your participation is voluntary and you may choose to withdraw your consent at any time. You will NOT be penalized in any way should you choose not to participate or withdraw.  You may remain in the course if you choose to withdraw consent.

7.   We will do everything we can to protect your privacy.  As part of this effort, your identity will not be revealed in any publication that may result from this study.  In rare instances, a researcher's study must undergo an audit or program evaluation by an oversight agency (such as the Office for Human Research Protection) that would lead to disclosure of your data as well as any other information collected by the researcher.

8.   If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Jennifer McKanry, 314-516-4513 or the Faculty Advisor, Theresa Coble 314-516-5951.  You may also ask questions or state concerns regarding your rights as a research participant to the Office of Research, at 516-5897.

This research has been reviewed according to University of Missouri-St. Louis IRB procedures for research involving human subjects. If you would like you may download a copy of this form for your records.

**I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I hereby consent to my participation in the research described above.**

ELECTRONIC CONSENT: Please select your choice below.

If you do not wish to participate in the research study, please decline participation by clicking on the Disagree button below.

○ Agree

○ Disagree

## Demographics

Thank you for completing a consent. The remainder of these questions should just take a few moments. At the end you will receive the code to access the course which begins June 1st, 2019.

**What Gender do you most identify with?**

○ Female

○ Male

○ Other

[            ]

**Please indicate your age range.**

○ <21 years

○ 22-35 years

○ 36-45 years

○ 46-55 years

○ 56-60 years

○ >60 years

○ I prefer not to answer

**Please indicate which race(s) you identify as.**

☐ White

☐ Black or African American

☐ Native American and Alaska Native

☐ Asian

☐ Native Hawaiian and Other Pacific Islander

☐ I prefer not to answer

Please indicate your ethnicity.

○ Hispanic or Latino

○ Not Hispanic or Latino

○ I prefer not to answer

Please share your zip code.

[                                                                ]

Which higher education institution type most closely describes your institution? If you work as faculty for more than one higher education institution, check all that apply.

☐ Associates College

☐ Baccalaureate College

☐ Master's Colleges and University

☐ Doctorate-granting University

☐ Special Focus Institution

☐ Tribal College

☐ Not classified

Is your higher education institution Private or Public? If you work at more than one higher education institution, check all that apply.

☐ Public

☐ Private

What is your primary field of academic focus?

○ Humanities (Arts, philosophy, etc.)

○ Natural sciences (Biology, chemistry, etc.)

○ Social sciences (Anthropology, political science, psychology, etc.)

○ Formal sciences (Computer science, mathematics, etc.)

○ Applied sciences (Engineering, health, etc.)

○ Business

How many years of experience do you have teaching in higher education? (Enter the closest whole number in years. Enter 0 if none.)

[                                                                ]

If you have experience teaching outside of higher education please indicate those years here. (Enter the closest whole number in years. Enter 0 if none.)

[                                                                ]

### Which option below describes your faculty appointment(s)?

○ Adjunct/part-time faculty

○ Full-time faculty

○ Other

[                    ]

### Are you currently in a tenure track position?

○ No

○ Yes

### What is your current position title?

○ Instructor

○ Assistant Professor

○ Associate Professor

○ Full Professor

○ Retired/Emeritus

### What is your union status? Please check the option that best applies to you. If you work on more than one campus, check all that apply.

☐ Union member

☐ Non-union member on a union campus

☐ Work on a non-union campus

☐ Other

[                    ]

### What is your annual gross income range?

○ Less than $35,000 USD annually

○ $35,000 to $49,999 USD annually

○ $50,000 to $74,999 USD annually

○ $75,000 to $99,999 USD annually

○ $100,000 to $124,999 USD annually

○ $125,000 to $149,999 USD annually

○ $150,000 or more

○ I prefer not to answer

## Prior Knowledge & Experience

**Your responses to the following questions will help give me an idea of the incoming knowledge of participants. Note it is not necessary to have any initial familiarity with these topics so do not feel shy to indicate such if that is the case.**

How many online courses have you taken before (do NOT include participation in self-paced courses such as CITI)?

[                                                                    ]

How many different courses have you taught online?

[                                                                    ]

Have you previously studied the process of how learning works?

○ No

○ Yes

How confident are you using each of the following in your teaching?

|  | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Don't Know |
|---|---|---|---|---|---|---|
| I have the skill to use **formative quizzing** effectively | ○ | ○ | ○ | ○ | ○ | ○ |
| I have the skill to use **spaced practice** effectively | ○ | ○ | ○ | ○ | ○ | ○ |
| I have the skill to use **blocked vs distributed practice** effectively | ○ | ○ | ○ | ○ | ○ | ○ |
| I have the skill to use **growth mindset feedback** effectively | ○ | ○ | ○ | ○ | ○ | ○ |
| I have the skill to use **scaffolding** effectively | ○ | ○ | ○ | ○ | ○ | ○ |

Are there any other comments you would like to share at this point?

[                                                                    ]

**UMSL** University of Missouri–St. Louis

Thank you for taking the time to complete the survey for this course. If you agreed to participate in the course you should have received a confimation code and enrollment instructions on the last screen of the survey. Once you have enrolled in the course I will reach out to you with a welcome message. If not, I thank you for your time and consideration.

If you have any questions at all please feel free to reach out to me. It is easiest to reach me via email. But I will respond to phone calls in as timely a message as possible as well.

Sincerely,
Jen McKanry
mckanryj@umsl.edu
314-516-4513

## APPENDIX D. POST-SURVEY

*This survey was administered via an online survey software called Qualtrics.*

UMSL University of Missouri–St. Louis

**Dear Participant,**

**Congratulations on reaching the last week of the *The Science of How Learning Works* course! This course is being offered for free as part of a dissertation project being conducted at the University of Missouri-St. Louis by Jennifer McKanry. The purpose of this study is to assess best practices in delivery of fully online faculty development programs. We appreciate your taking a few moments to complete this post-course survey. Please provide your feedback even if you did not complete the full course. Thank you!**

THE SCIENCE OF HOW LEARNING WORKS
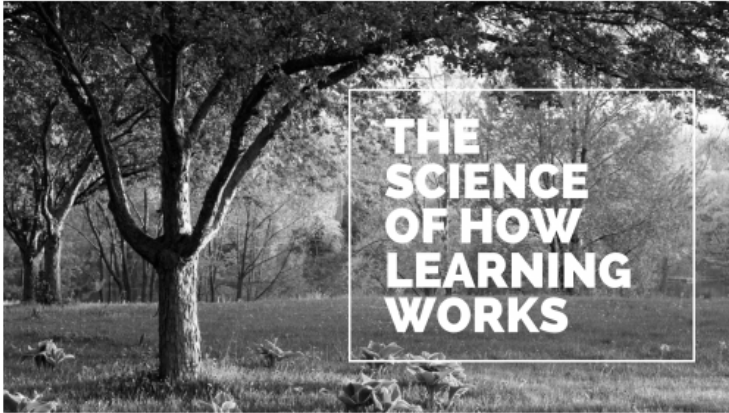
## Knowledge & Experience

How well do you feel you mastered the learning objectives of the course (listed below)?

| | Not at all | | | | | | Complete mastery |
|---|---|---|---|---|---|---|---|
| 1. Explain the basic learning process in terms of working, long-term memory and information retrieval. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 2. Describe the environmental factors that can impede or improve the learning process. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3. Assess areas in your course where students struggle most with comprehension and explain why. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 4. Generate lesson plans that incorporate tools to maximize understanding for the adult learner and overcome common learning barriers. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**My experience in this course...**

| | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| helped me gain insight that will enhance my teaching. | ○ | ○ | ○ | ○ | ○ |
| helped me negotiate an understanding of the material. | ○ | ○ | ○ | ○ | ○ |
| provided added value to my teaching. | ○ | ○ | ○ | ○ | ○ |
| improved my skills in teaching. | ○ | ○ | ○ | ○ | ○ |
| benefited by daily work. | ○ | ○ | ○ | ○ | ○ |

**My participation in this course affected my...**

| | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| attitude toward teaching. | ○ | ○ | ○ | ○ | ○ |
| understanding of my role as a teacher. | ○ | ○ | ○ | ○ | ○ |
| ability to influence the world as a teacher. | ○ | ○ | ○ | ○ | ○ |
| recognition by others in my position as a teacher. | ○ | ○ | ○ | ○ | ○ |
| self-confidence as a teacher. | ○ | ○ | ○ | ○ | ○ |

**My interactions with others in this course...**

| | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| helped me build relationships and network with others. | ○ | ○ | ○ | ○ | ○ |
| gave me a sense of a safe environment to learn in. | ○ | ○ | ○ | ○ | ○ |
| gave me a sense of belonging. | ○ | ○ | ○ | ○ | ○ |
| motivated me to share work-related knowledge. | ○ | ○ | ○ | ○ | ○ |
| had influence on my daily work. | ○ | ○ | ○ | ○ | ○ |

## Community of Inquiry Survey Instrument *(Source: Community of Inquiry network website, v. 14)*

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| The instructor clearly communicated important course topics. | ○ | ○ | ○ | ○ | ○ |
| The instructor clearly communicated important course goals. | ○ | ○ | ○ | ○ | ○ |
| The instructor provided clear instructions on how to participate in course learning activities. | ○ | ○ | ○ | ○ | ○ |
| The instructor clearly communicated important due dates/time frames for learning activities. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn. | ○ | ○ | ○ | ○ | ○ |
| The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking. | ○ | ○ | ○ | ○ | ○ |
| The instructor helped to keep course participants engaged and participating in productive dialogue. | ○ | ○ | ○ | ○ | ○ |
| The instructor helped keep the course participants on task in a way that helped me to learn. | ○ | ○ | ○ | ○ | ○ |
| The instructor encouraged course participants to explore new concepts in this course. | ○ | ○ | ○ | ○ | ○ |
| Instructor actions reinforced the development of a sense of community among course participants. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| The instructor helped to focus discussion on relevant issues in a way that helped me to learn. | ○ | ○ | ○ | ○ | ○ |
| The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives. | ○ | ○ | ○ | ○ | ○ |
| The instructor provided feedback in a timely fashion. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| Getting to know other course participants gave me a sense of belonging in the course. | ○ | ○ | ○ | ○ | ○ |
| I was able to form distinct impressions of some course participants. | ○ | ○ | ○ | ○ | ○ |
| Online or web-based communication is an excellent medium for social interaction. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| I felt comfortable conversing through the online medium. | ○ | ○ | ○ | ○ | ○ |
| I felt comfortable participating in the course discussions. | ○ | ○ | ○ | ○ | ○ |
| I felt comfortable interacting with other course participants. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| I felt comfortable disagreeing with other course participants while still maintaining a sense of trust. | ○ | ○ | ○ | ○ | ○ |
| I felt that my point of view was acknowledged by other course participants. | ○ | ○ | ○ | ○ | ○ |
| Online discussions help me to develop a sense of collaboration. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| Problems posed increased my interest in course issues. | ○ | ○ | ○ | ○ | ○ |
| Course activities piqued my curiosity. | ○ | ○ | ○ | ○ | ○ |
| I felt motivated to explore content related questions. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| I utilized a variety of information sources to explore problems posed in this course. | ○ | ○ | ○ | ○ | ○ |
| Brainstorming and finding relevant information helped me resolve content related questions. | ○ | ○ | ○ | ○ | ○ |
| Online discussions were valuable in helping me appreciate different perspectives. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| Combining new information helped me answer questions raised in course activities. | ○ | ○ | ○ | ○ | ○ |
| Learning activities helped me construct explanations/solutions. | ○ | ○ | ○ | ○ | ○ |
| Reflection on course content and discussions helped me understand fundamental concepts in this class. | ○ | ○ | ○ | ○ | ○ |

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| I can describe ways to test and apply the knowledge created in this course. | ○ | ○ | ○ | ○ | ○ |
| I have developed solutions to course problems that can be applied in practice. | ○ | ○ | ○ | ○ | ○ |
| I can apply the knowledge created in this course to my work or other non-class related activities. | ○ | ○ | ○ | ○ | ○ |

How confident are you using each of the following in your teaching?

| | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| I have the skill to use **formative quizzing** effectively | ○ | ○ | ○ | ○ | ○ |
| I have the skill to use **spaced practice** effectively | ○ | ○ | ○ | ○ | ○ |
| I have the skill to use **blocked vs distributed practice** effectively | ○ | ○ | ○ | ○ | ○ |
| I have the skill to use **growth mindset feedback** effectively | ○ | ○ | ○ | ○ | ○ |
| I have the skill to use **scaffolding** effectively | ○ | ○ | ○ | ○ | ○ |

Are there any other comments you would like to share at this point?

**UMSL** University of Missouri–St. Louis

Thank you for taking the time to complete the survey for this course. If you have any questions at all please feel free to reach out to me. I am also hoping to complete a 1 hour interview with all participants. If you would be willing to be interviewed. Please reach out via the phone or email below. I look forward to talking with you about your experiences.

Sincerely,
Jen McKanry
mckanryj@umsl.edu
314-516-4513

## APPENDIX E. PARTICIPANT INTERVIEW PROTOCOL

*Interviews will be completed in person or via web conference at a location of the participants' preference. They will be video or audio recorded and transcribed for analysis.*

Motivation/Barriers (RQ3)

1. Tell me a little bit about what lead you to participate in this course? (follow-up: What motivates you to enroll in a faculty development programs? What motivates you to stick with a program?)

2. What outcomes were you hoping to get out of the course?

3. What did you like best?

4. What did you like least?

5. What difficulties, if any, did you experience completing the course?

Building of Community (RQ1)

6. Tell me about your experiences in online learning environments.

7. Describe your experience with interactions with other participants in online courses. (follow-up: Was this effective for your learning? Did you feel there was support from your peers in the program? In what ways? Please give a couple examples.)

8. Have you been able to facilitate that kind of interaction in your own courses?

9. To what extent did you experience community through your participation in the course? (follow-up: Did you feel that right away? Or was there a point in which you started to feel this community?)

10. Were there things you did to try to foster a sense of community?

11. What was the most meaningful part of your participation in the course? (follow-up: Why did you like that? Was that expected or unexpected? Is that something you will be able to use in your future courses?)

12. Did you feel you had control over your learning during the course?

13. There were a diverse set of participants (schools/disciplines/types of institutions. How did that influence your learning/ability to connect/share your identity in the course? In what ways did it make it easier or harder?

Social Presence (RQ2)

14. Did you feel you were able to be yourself online and allow your personality to come through? How?/Tell me about that.

15. How easy did you find it to voice difficulty in understanding and ask for clarification or help? (follow-up: Why? Were you ever lost or confused? How did you navigate or negotiate that? Did it work?)

16. Were there times where you lost interest or felt disconnected within the course?/Tell me about that.

17. What were your thoughts about the interactions within the course? (follow-up: What were your thoughts about the discussion forums specifically? What are your experiences with discussion forums in other courses?)

Wrap-up

18. What will you take away from this course? (follow-up: What did you learn? What do you feel you now can do that you couldn't before?)

19. Is there anything else you feel would be relevant for me to know that we did not already cover?

**APPENDIX F. DESIGNER INTERVIEW CODE BOOK**

| Category | Sub-Category | Supporting Text |
|---|---|---|
| 1: Practical and applicable material | Use summary articles and examples | "Post relevant articles and resources" (Laura-designer, 274-279). "Don't overwhelm them with theory. Always focus on the practical application and provide examples" (Melanie-designer, 708-713). "Use case studies to help faculty understand application of theory" (Wanda-designer, 123-125). |
| | Incorporate authentic activities | "Focus on application-based questions and activities" (Julia-designer.159-161). "Examples, examples, examples, examples and practical application" (Bianca-designer.148-149). |
| 2: Faculty as co-leaders | Provide opportunities for peer interaction | "Use open ended discussion questions that stimulate conversation" (Emma-designer, 112). "Have them provide peer feedback on weekly artifacts" (Laura-designer, 68-69). However, one designer cautions "you can have death by discussion forum if you overdue the discussion requirements" (Jane-designer, 157-158). |
| | Encourage mentoring | It is "really nice to have long tenured instructors join in on the conversations because they tend to do a lot of the mentoring" (Aria-designer, 46-47). Have faculty "rotating in and out of overlapping cohorts so there are some experienced and some new members to facilitate mentorship and transition or modeling of the cultural norms of expectation" (Elise-designer, 86-90). |
| | Utilize peer teaching | "Encourage the faculty to teach each other-direct them to another faculty to answer the question instead of always giving them the answer" (Brody-designer, 207-209). "This empowers the faculty to feel literate in what they are trying to do and be empowered with |

| | | |
|---|---|---|
| | | their students" (Brody-designer, 220-222). |
| 3: Facilitator guidance | Set expectations early | "Set expectations for participation and group norms for participation" (Elise-designer, 40-42). "Set a standard of being active at the beginning" (Emma-designer, 209-210). |
| | Model desired behavior | "Faculty see what we are doing and want to do the same in their class, so we want to set a good example" (Emma-designer, 203-204). "Explain you are modeling best practices" (Betty-designer, 208-209). "We need to model what we are teaching" (Caleb-designer, 411-412). |
| | Build a safe space | "Make sure it is a collegial atmosphere where all participants feel equal and the facilitators are approachable allowing for participants to admit when they don't know something" (Wanda-designer, 56-59). "Great leadership I think is really important to create a safe space" (Carlynn-designer, 187). |
| | Provide support | "Reach out to faculty who are not participating and encourage them to come back. Provide suggestions for how to get caught up with the rest of the cohort" (Fara-designer, 103-112). "Reminders right before due dates are helpful to increase compliance and participation" (Aria-designer, 79-82). "When they have a lot of things on their platter they sometimes just need that little nudge reminding them" (Fara-designer, 363-365). |
| 4: Learning over time | Move outside traditional course model | "Don't call it a course. This limits and sets specific expectations of faculty for what they could get out of it" (Audrey-designer, 336-341). "Get out of the LMS [learning management system] into something else to get away from the 'course' idea" (Audrey-designer, 344-345). |
| | Build long term relationships | "Build professional learning communities for faculty to be put in right from the start of their employment" (Maggie-designer, 151-154). "Longer programs allow for more building of |

| | | community, getting to know peers and bringing them into the conversation, beyond just responding to a few peers" (Elise-designer, 55-57). |
|---|---|---|
| | Cultivate shared experience | "I think faculty development extends beyond just coming to a workshop and getting professional development. But also sharing is a part of faculty development as well" (Fara-designer, 60-62). "Teaching circles where you view each other's courses, either face-to-face or online, and provide feedback as a group" can be very effective for learning and reflection (Jessica-designer, 11-12). "Create this true community of learners and accountability and also just burden sharing" (Aria-designer, 38-39). |

**APPENDIX G. PARTICIPANT INTERVIEW CODE BOOK**

| Category | Sub-Category | Supporting Text |
|---|---|---|
| 1: Humanized design | Increase access | "I'm a new mom and I'm stuck in the house a lot right now… this allowed me to be productive" (Amy-participant, 29-30). "I really enjoyed it because you don't have to be in a specific place at specific time. It allows me, if I can't sleep, or if I just have free time, I can be in the airport, on the beach, whatever, and I can still get the assignment accomplished" (Taelyn-participant, 9-11). "I really liked the fact that it was online because I was actually able to participate" (Cadence-participant, 30-31). To "have more access to more information kind of reinforced and re-motivated me" (Darla-participant, 201). |
| | Share stories | "People were really using their own experiences to like kind of tell a story like how they reached that [conclusion]" (Ruth-participant, 131-132). "I want to see people that had experience and they did have, they had a lot to share" (Alice-participant, 323). "It's just done telling stories which is like we crave stories. We're so human" (Ruth-participant, 293-294). |
| | Neutralize power dynamics | "You didn't know if what you're doing was good or bad. You had nobody to compare notes with, nobody to ask questions of" (Sadie-participant, 370-371). "This kind of validation and information I wasn't getting until somebody said, oh, you know, your evaluations aren't good" (Dahlia-participant, 564-567). |

| | | Specific to part-time faculty:<br>"Most of the time we did not have access to any resources from the teaching center. The philosophy there was their resources were for tenure track or full-time faculty only" (Sadie-participant, 249-250).<br>"We don't think we're seeing that we're on the same playing field, you know. We're like, we're there, but we're not really there" (Sadie-participant, 368-369). |
|---|---|---|
| | Promote peer support | "There were things that I already was doing. And then there were things that I needed to work on. And so, I can get highlighted for me the things that I needed to work on" (Helen-participant, 28-30).<br>"All the interaction with other instructors and feedback when we were doing peer reviews. That helped a lot. I didn't feel like, it was almost like I was talking to someone in person because we had so many, you know, feedbacks between instructors. So, I didn't feel like I was being isolated at all." (Katlin-participant, 43-45). |
| 2: Validation | Of teaching struggles | "The good thing about the groups was that it kind of made me realize, again, that every faculty member in every field has some of the same issues" (Amy-participant, 91-93).<br>"For me it was just that reaffirmation that it's okay to be in that mode of learning and trying new things and working on it" (Helen-participant, 226-228). |
| | Of teaching strategies | "The fact that some of the things that were ... ways that I was already teaching intuitively, and that that was validated, that was really, really good for me" (Cali-participant, 257-259).<br>"It was reaffirming that the things that I'm doing are evidence based because that's important to me" (Helen-participant, 27-28). |

| | | |
|---|---|---|
| | | "I knew that I was doing things, but I didn't know that that there was a name for it" (Dahlia-participant, 65-66). |
| | Through overcoming challenges | "We need to be uncomfortable to grow" (Cadence-participant, 79).<br>"Going outside of your comfort zone that was helpful" (Alice-participant, 114-115).<br>"I'm much older than you are, and so that retrieval piece is sometimes more difficult. But you know I was very proud of myself because I would take those tests and say, you know I can do this" (Stella-participant, 63-65).<br>"I had to figure out how to do the video at the very beginning of myself. It took a little bit. But I was happy to learn how to do that" (Darla-participant, 89-90). |
| 3: Perspective taking | Of students | "It just reminds me to empathize with my students because they also have other things in their lives" (Helen-participant, 238-239).<br>"Being a student, as well as a faculty member for me also helps me to just really reflect and to think as to, you know, what's the most effective method" (Naomi-participant, 307-308).<br>"It's a good lesson for me too. You know I know we're talking faculty development, but in our regular courses stuff happens to the students too, so you know accommodating that somehow" (Pamela-participant, 125-128). |
| | Of peers | "I really liked reading the perspectives, one from instructors who have way more experience than I do in education. But two, there weren't a ton of science teachers. So, they saw things so differently than I did. I really liked reading how they interpreted things" (Terry-participant, 157-160).<br>"It seemed like people were, you know, some people genuinely excited and some people had a lot to offer" (Cali-participant, 54-55). |

| | | |
|---|---|---|
| | | "I had the opportunity to see it from their perspective. And sometimes what they got out of it wasn't even a little bit what I got out of it. And I would like to say that, you know, we live in this educational utopia. And we have these discussions over lunch every day. No, we don't. To me it was nice to have a dedicated space to talk to other educators about education" (Terry-participant, 231-235). |
| 4: Perseverance | Through commitment to self | "I found it motivating thinking, Oh I've started this, I've committed to it. I've got to continue it" (Miranda-participant, 181-182).<br>"I made a commitment to it. And I needed to follow through. And if I don't do it, then I'm not going to learn what it is I think I need to learn" (Jolene-participant, 175-176).<br>"I had limited time. And so, and I think that was my own sort of ambiguity about being in the course" (Cali-participant, 103-104).<br>"Yes, it's different when it's not a for credit class. I mean, what's gonna fall off first is probably that, unfortunately" (Pamela-participant, 280-281).<br>"I am also a little bit extrinsically motivated too. And so, you know, even from the right at the beginning you said these are the different levels. And if you turn in so many assignments, you're going to [move up]. And so just something very simple like that was, I found, motivating" (Miranda-participant, 179-182).<br>"The quizzes, I really like that. And you know, when I messed up, I found myself continuing to want to go like, you know, until I got 100% ... You know, it was just like I really want to know this" (Elizabeth-participant, 55-58). |
| | Through commitment to peers | "Occasionally if I knew there was something that group members were supposed to be reviewing I often did it late. |

| | | But I would have felt bad not doing it all" (Bryan-participant, 256-260). "It was nice to also have a sense of social proofing like this. Look at what others are doing. And now they're working real hard. I ought to work real hard too" (Paul-participant, 47-49). "I gave a ton of feedback. I didn't get a lot of feedback and response." (Ruth-participant, 128-129). "I think with the people, it was kind of challenging getting some people to participate. And it really wasn't as much discussion as I would have liked" (Ben-participant, 147-149). |
| | Through commitment to facilitator | "Your encouragement and that you were very welcoming, and I felt like I didn't have to make excuses for myself, that you just trusted that everybody's doing the best that they can, was really powerful" (Dahlia-participant, 517-518). "You are just one fountain of ideas. And you know I just wanted to just keep picking your brain" (Lydia-participant, 109-110). |
| 5. Flexible design | Incorporate reflection | "So, when I actually turned in the file, I just wrote a reflection, even though that wasn't part of it because I thought that that's, I mean that's important to be self-reflective in our teaching practices" (Ruth-participant, 152-154). "I liked doing the postcard assignment. That really helped me sort of to process what I was thinking and where I was, how I felt, and where I was at" (Cali-participant, 70-71). |
| | Encourage application | "The practical application part is what I liked the best, which is what I tend to like best" (Cali-participant, 65). "That was nice, as a student, to be able to take an assignment and use it in real life" (Samantha-participant, 169). "Some of the things that we learned about ... just fit in perfectly with these changes |

| | | |
|---|---|---|
| | | that I'm making. And so, for me, it was kind of like, oh, I'm taking a class, but I'm also getting work done at the same time because I'm thinking about how this is going to affect class" (Helen-participant, 175-178). |
| | Incorporate choice | "There was a lot of diversity in the way that you presented the information. You had things that, you know, things that you could read, watch, look at from so many different perspectives" (Terry-participant, 192-194). "I liked having options of submitting different things ... it more fun and more engaging and I think that you have better buy in. So, I really liked having the options for assignments" (Miranda-participant, 75-78). |
| | Reach faculty where they are | "In the discussions there were a few contributions which I could not understand because they were highly technical" (Jasmine-participant, 146-147). "I didn't have as much experience to draw on to have that discussion. And some of the some of the terminology even I was not as familiar with" (Cali-participant, 155-159). "No, in terms of the tech I don't, I mean I'm pretty techie. N,o it was fine" (Ruth-participant, 78-81). "I have not used Canvas before, and I'm just learning Blackboard now, so that was a little bit of an issue with me" (Cali-participant, 114-116). |

## APPENDIX H. DESIGNER INTERVIEW CONSENT FORM

**UMSL**

**Department of Education Sciences and Professional Programs**

One University Boulevard
St. Louis, Missouri 63121-4499
Telephone: 314-516-4513
Fax 314-516-7130
E-mail: mckanryj@umsl.edu

### Informed Consent for Participation in Research Activities
Building Community in Online Faculty Development

Participant _____    HSC Approval Number _____

Principal Investigator ___Jennifer McKanry_____    PI's Phone Number __314-516-4513_____

---

### Summary of the Study

The purpose of this research is to examine effectiveness of fully online faculty development programs. This confidential pre-course survey is intended to collect a baseline understanding of the knowledge and experience of course participants. There will be an additional post-course survey to determine effectiveness of the course design. There will also be a post-course interview.

1. You are invited to participate in a research study conducted by Jennifer McKanry under direction of Theresa Coble. The purpose of this research is to assess ways online discussion forums can build community in online faculty development programs to assure a collaborative, transformative learning process.

2. a) Your participation will involve
   - This confidential pre-course survey is intended to collect a baseline understanding of the knowledge and experience of course participants (approximately 5-10 minutes).
   - Participation in the 4-week fully online course (approximately 3-6 hours per week).
   - A post-course survey (approximately 5-10 minutes).
   - An additional post course interview (approximately 1 hour).

     Approximately 30-80 participants may be involved in this phase of this research at the University of Missouri-St. Louis.

   b) The amount of time involved in your participation will be approximately 3-6 hours per week (there is no remuneration for this participation).

3. There are no known risks associated with this research (other than the potential for mild boredom or fatigue).

4. Direct benefits for participation include gaining knowledge and understanding of the cognitive psychology material presented in the course specifically organized for improving teaching. Additionally faculty interested in teaching online might find it beneficial to have the experience of being an online student.

Rev 012419

5. Your participation is voluntary and you may choose not to participate in this research study or withdraw your consent at any time. You will NOT be penalized in any way should you choose not to participate or withdraw.

6. We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication that may result from this study. In rare instances, a researcher's study must undergo an audit or program evaluation by an oversight agency (such as the Office for Human Research Protection) that would lead to disclosure of your data as well as any other information collected by the researcher.

7. If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Jennifer McKanry, 314-516-4513 or the Faculty Advisor, Theresa Coble 314-516-5951. You may also ask questions or state concerns regarding your rights as a research participant to the Office of Research, at 516-5897.

**I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I hereby consent to my participation in the research described above.**


_____           _____
Participant's Signature                           Date


_____           _____
Signature of Investigator or Designee           Date


Rev 012419